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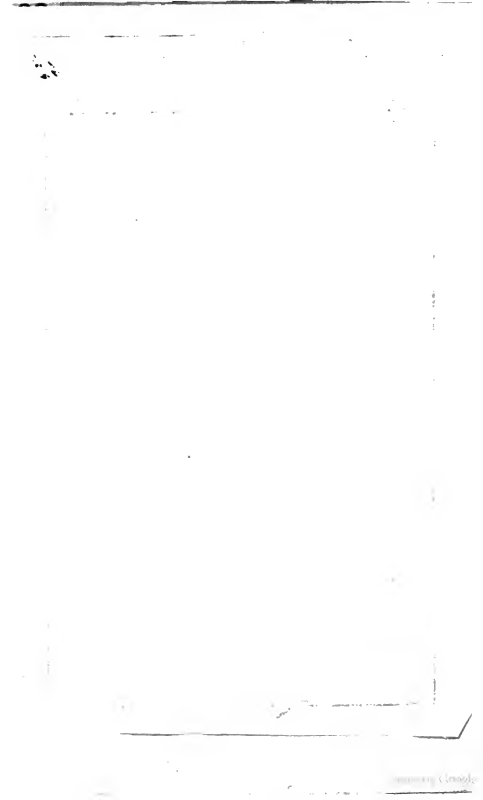


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NAUTICAL OBSERVATIONS

ON THE

PORT AND MARITIME VICINITY OF CARDIFF,

WITH OCCASIONAL STRICTURES ON THE NINTH REPORT OF THE

TAFF VALE RAILWAY DIRECTORS;

AND SOME GENERAL REMARKS ON THE COMMERCE OF
GLAMORGANSHIRE.

By CAPTAIN W. H. SMYTH, R. N., K. S. F.

ETC, ETC.



CARDIFF:

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INTRODUCTION.

THE following "Nautical Observations" attempt to dispel a sort of mirage, which has lately been hanging over a fair portion of Glamorganshire; and for that purpose they are, I trust, sufficiently intelligible to all concerned. But when once the press is resorted to, it becomes uncertain into what far distant quarters, a lucubration may penetrate; on which account, it may be necessary to offer an introduction; or, as an American writer terms it, a prolegomnaceous preface. This is to be considered the more imperative, as the Tractate opens rather locally and abruptly at a point which, however palpable here, may not be readily comprehended abroad; viz., the general meeting of the Shareholders of the Taff Vale Railway, in August last. The sum of the matter herein set forth, was written before the end of that month; but its appearance was retarded—first, unavoidably from a delay in the engraving of the plans; and secondly, from a consideration as to printing it at all. The last reason, however, was speedily dissipated, on finding that the falsehoods and calumnies against the Bute Docks, (*see pp. 30, to 34, 42, passim.*) were still as rife as ever. Of these, the story circulated in the London Journals of last October, (*see page 32,*) and the present industriously-spread disparagement of the admirable measures in hand, to cure a leak in the lock, (*see page 33,*) are samples worthy of note.

The Ocean, in the phrascology of the day, may be termed the world's wide railroad; and each sea-port a station, where com-

mercial accommodations are prepared ; and according to these accommodations, more or less traffic is sure to ensue. It has been recently and sagely remarked, that without ports there would be no vessels, a truism rather incontrovertible ; for ships skimming the sea, without havens to bring up in, would be like Mynheer with the steam-leg, who could never stop himself, and was seen whirling along with astonishing velocity even after he had become a skeleton. The axiom, however, tends to illustrate the value of harbours in general to the wants, luxuries, and energies of mankind ; which being thus readily admitted, it only remains to show, that among them, the Bute Docks, constructed at the cost of a quarter of a million sterling, by the noble Marquess whose name they bear, hold a foremost rank. Here the largest merchantmen will find a convenient haven of very easy access ; several ships of six or seven hundred tons having already been discharged and laden there, besides one of a thousand tons.

The great and rapid increase of commerce, which this neighbourhood witnessed during the last few years, loudly demanded enlarged convenience ; for though small traders were received in the Glamorgan Canal, most vessels of above two hundred tons, were compelled either to lie and load on the mud-banks at the mouth of the Taff, or out in the roads. All this was notorious ; yet there was much astonishment, and some jealousy excited, when the Marquess resolved upon supplying the glaring deficiency himself, and, by a capacious port, to invigorate the local interests. In the interim between this resolution, and its fulfilment, the genius of restless and purblind Speculation was at work, and, in the consequent fermentation, coveted the goodly undertaking. Some of the principal freighters of the district, unable or unwilling to do the thing for themselves, now got up a company to bring a railroad down from Merthyr to Cardiff as a main trunk ; into which branches were to be led — also at the company's cost — from the collieries of the contrivers. Not content with being accommodated with a spacious datum terminus, along a frontage of the deepest part of the port, the primary promoters of the railway wished to monopolize the whole western side of the New

Float ; and yet they offered so beggarly a sum in remuneration, that the proffer could only be excused as an absurdity.

On the breaking off of this negotiation, the discomfited Managers made a *rechauffé* of an exploded project, in the hope of forcing a point ; for I cannot but yield that deference to their discernment, as to feel confident that they were never in earnest themselves,—whatever might be the effect of palaver upon those who knew no better, and were incapable of distinguishing between sallies of fancy, and the deliberate exercise of judgment. I am alluding to the notable and astute project of establishing a rival to the Docks, in the little creek called Cogan Pil, on the bank of the Ely. This port had been one of the theoretic conceptions which a landsman proposed to the Marquess, a few years before ; but which, from its leeward locality, want of back-water, and other obstacles herein-after enumerated, offered very little attraction to the eye of a seaman. Much boasting followed this revival ; and, as if to swell the weight of the threat, the Managers, without consulting those who nourished them, entered into a bond of £56,000, to construct this branch within five years ; although their Act of Parliament precluded any such undertaking, till the main line should be fully completed. This was a strong measure, and would imply earnestness in the cause. But we find some who are neither prescient, nor practically wise ; or how could the fact, that this irregular proceeding was illegal, have been completely lost sight of ?

Meantime, owing mainly to lavish expenditure, a southerly wind prevailed in the Company's purse ; and the Managers of the concern obtained leave, from the Shareholders, to apply to Parliament for permission to levy more cash. To render, however, such an expensive step somewhat palatable to the thinking portion of the Subscribers, they flattered them with the notion, that they would also be allowed to raise the tolls for which the first Acts had been obtained. This tempting bait, was, nevertheless, discarded the moment the hook had taken its hold ; but fortunately for the helpless πολλοι, the Opposers of the Bill kept a vigilant look-out on all the proceedings, and prevented their being entirely

crushed under the weight of new obligations. It was not the smallest feature in this case, that after all the amendments, dockings, alterations, and curtailments, which the proposition underwent in London, it should be shown to a general meeting of the Shareholders, at Cardiff, as their own *dear* Bill; while they, delighted to be so assured, and to obtain a dinner also, tendered hearty thanks to their Entertainers and Managers. It is with this Meeting-Dinner, or Dinner-Meeting, that my remarks commence; for in the Official Report made to it—as well as in the discussions of the day—such allegations and personalities were advanced against people whose opinions differ from those of the Directors, that reply was imperatively demanded.

However its *seria mixta jocis* may trench upon the essential laws of composition, it is presumed that the following statement must be deemed of general importance, when its tenour is duly considered. The value of the Glamorgan district, in a national point of view, may be inferred by the general mineral statistics of the last year. The average value of the annual produce of coal, iron, lead, zinc, tin, copper, and silver, from the mines of the British Islands, amounts to the enormous sum of £20,000,000; of which, about £8,000,000 arise from iron in its first marketable state, and £9,000,000 from coal, as priced at the pit's mouth. Such is the general view of a great sinew of our political existence, and the treasure accruing to British industry; while the particular features for this county, will be found in the following pages. But in addition to what is there advanced, a fact or two of some importance, may be here premised.

Assuming for illustration, that the mineral field of South Wales has an area of six hundred square miles, we have only to take (allowing for dips, valleys, faults, &c.) the very low average of the several seams of coal as forming a thickness of thirty feet, to show that each square mile contains thirty million tons of coal, at the usual rate of a cubic yard weighing one ton. Leaving one-third of the coal to support the superincumbent strata, a square mile may still be estimated at twenty million tons, which, multiplied by six hundred, the supposed area, gives twelve thousand

million tons; upon which enormous quantity, the royalty alone to the fortunate landlords, of only sixpence per ton, would amount to £300,000,000 sterling!

Such is the treasure, in round numbers, existing in this vicinity; for though the strata in many places take too great a dip, or lie too deep beneath the surface, to be profitably workable, the thickness of accessible coal in others, amounts to ninety feet. Accordingly, where the nature of the ground allows of the coal being worked, we may reckon that a square mile will yield a thousand tons per day, or three hundred thousand per annum, counting three hundred working days in a year; and this would endure for a century without exhaustion.

The iron ore, though intermixed with the coal-seams, is far more irregular and more dispersed, differing greatly in quality as well as quantity, besides being subject from its parallelism with the coal, to similar dips, and other obstacles. But, if we estimate the whole existing quantity at five million tons per square mile, and of the average richness of twenty per cent., it would yield, if entirely extracted, one million tons of metal, which multiplied by the said area of six hundred square miles, amounts of course to six hundred millions. The mere royalty on the original ore, calculated as before, at only sixpence per ton—though but half of what in many instances is now actually paid—would produce £75,000,000 sterling to the landlords. And assuming, as we did relative to the coal, that the mining will endure a century, there need be raised from each accessible mile of iron-stone, only about one hundred and sixty-seven tons daily, or fifty thousand yearly. However large these quantities may appear, let it be remembered that they are *less than half* of what some experienced men assert to exist in this highly favoured region.

Here is matter for meditation! By a bountiful provision of nature, the fuel by which iron is separated from its earthly alloy, or oxide, and the limestone, without which the separation could scarcely be effected, are found in the same rich treasury from whence the admirable metal itself is drawn. And if the observation be just, that the degree of civilisation attained by any

nation may be ascertained by the quantity of iron it consumes, the industry of Glamorgan—although not yet fully sensible of the advantage and power of its cheap heat—is so widely contrasted to the “*auri sacra fames*” of Peru and Mexico, that we may proudly and thankfully boast of the superior importance of the teeming mines of Siluria, in all that can add to the progress of moral perfection, and the development of men’s minds. Indeed, we might almost pardon a Parkinson for insinuating, that the formation of coal was one of the purposes which Providence had in view, in ordaining the universal deluge.

PART THE FIRST.

A GENERAL VIEW OF THE QUESTION.

A PRINTED paper has accidentally come under my notice, which, being in an official shape, and signed by the chairman of a meeting convened by public advertisement, certainly demands a comment, as it not only errs against fact, but also against the taste, and good fellowship common to such records. In the present rapidly rising state of the county of Glamorgan, I am well aware of the necessity of throwing overboard all petty cavils; and also, that the sooner all are rowing in the same boat, the faster it will go. But in the mean time, those whose name is Legion, are not to be suffered to scatter ungenerous imputations, nor make incorrect statements with impunity.

The document thus complained of, is entitled, "Report of the Directors of the Taff Vale Railway Company, to the Proprietors assembled at the Half Yearly General Meeting, 5th August, 1840." It opens with a kind of masked clap-trap, inasmuch as the Directors, or rather the select portion of them, who have all along been the Managers of the concern, announce that they feel "great pleasure" in acquainting the shareholders, that the Bill which was submitted for their consideration in June, has "since received the sanction of the legislature, without any material alteration;" and they pointedly congratulate the Company upon the additional powers conferred on the Body by the New Act of Parliament.

This is a blinker with a vengeance. Why, on the 2nd of June, the labours of the Commons' Committee on the Bill were over; and whatever the Managers thought proper to circulate, they well knew, or from their office ought to have known, that no serious opposition was intended in order to impede its progress through the House of Lords. But to the mass of the inattentive subscribers, the vaunt

of getting the bill passed "WITHOUT ANY MATERIAL ALTERATION," would seem to allude to the noted Act which the Managers drew up, printed, and shewed about at the meeting in February; and which, the said Subscribers were assured, was quite "sure of passing." Now, great as the "pleasure" of the Managers may have been, at the so called immaterial changes, there are certainly but few thanks due to them for the substantial alterations which occurred in transmuting the Act concocted, into the Act obtained. But as many of the payers for shares, from a hoodwinked reliance on the integrity and wisdom of others, may stand in need of a Laputan flapper, I will, as far as the still loose wording of the Act will allow, subjoin a general view of the cutting and carving which took place, that they may judge whether the extent of such alterations was material or not:

I. The grand clause by which dust was scattered in the eyes of the subscribers, and £10. per share extracted from them, was a scheme for raising the tolls to nearly double the amount fixed by the Act passed in 1836; and there was a condition, somewhat more than implied, that if the Managers should be unable to obtain this boon, the Bill was to be abandoned. By such means the payers hoped to escape being swamped under the obligations of a new and heavy loan. This very clause was, however, withdrawn by the Managers themselves, they well knowing, or they ought to have known, that it was not only informal, but very inimical to some of the freighting interests in the Direction. Parliament has no other method of protecting the interests of the Public, than by adhering to the conditions for which they grant enormous and compulsory powers to projectors. It is directly at variance with the practice of that body to allow a private company of individuals, having obtained these large powers upon the basis of an expressed contract, to perpetrate a gross violation of the terms; and instead of the advantages held forth by moderate rates and tolls, to commit a direct fraud and injury on the community. This, of course, was well understood, and the *sop*, when it had served its purpose, was put aside without the consent, authority, or even privity, of those who had entrusted the Managers with it: but it was on an understanding that so unparliamentary a clause would be withdrawn, that the Bill obtained a second reading. Yet a rumour was rife in Bristol and Cardiff, that the toll clause was the battle to be fought. I am loth to dwell

upon this point, but as Mr. Nym says, "there must be conclusions."

II. The restriction of the profits to 7 per cent. was withdrawn. As this is a much boasted boon, it is almost a pity to make a remark upon it; but when we consider the course of years which must elapse before the railway profits can realise anything like that sum, it requires no gift of prophecy to foresee, that the supposed benefaction is of no great value to the present generation. The loan raised is such that the profits, after so profuse an expenditure, are notoriously unlikely to pay the subscribers for a long time.

III. That strange and despotic regulation, by which six of the largest freighters—though possessing only ten shares each—seated themselves in the Direction, as a matter of right, was got rid of. But for smashing clause 96, and being thus released from the self-election of those whose personal interests as *subscribers*, was so largely overbalanced by their prospect of returns as *carriers*, small thanks are due to the Promoters.

IV. The power of capitalising interest on calls. This is an *ad captandum* play of words, as the actual dividends will be paid on the original amount only of the *old* shares, till 1843; because till then the 5 per cent. interest is insured to the *new* shares. And this state of things is likely to continue; for, from the paucity of fresh shareholders, the weightiest of the old subscribers are the most probable persons to purchase the new shares. They will then naturally avail themselves of the option allowed by the Act, to prolong the period during which the *new* shares shall be paid 5 per cent. in preference to the *old*. Hence the old shares will continue to participate merely in the surplus that may remain, however small that surplus may be, after the interest due to the new shares shall have been paid. To the original small subscribers, this is matter of moonshine.

V. Permission to charge sixpence per ton on the Ely branch; when, by the way, it shall be made. This is pretty well understood to be a charge not intended to be levied, as whispers have got into circulation, that Lord BUTE's measures compelled the Managers to name so high a sum. Besides, this sixpence with another penny for the additional length of the Ely Branch, beyond that to the Bute Docks, being against the freighters, is also rather more than the Public were given to expect.

VI. Permission to raise £220,000 more, to complete the main line and branches. But this, they are well aware, is incompetent to the crude projects and heavy expenses they are about to plunge into; so to Parliament they must go again, for an additional supply of money. To complete the main line, and the colliery branches—its feeders—will witness an outlay of more than half a million;—and the Ely—or deducting branch—with its stations, staiths, and various conveniences, cannot cost less than £140,000. The payment of interest to the lenders of money, leaves but a very small amount of profit to be divided among the proprietors of shares, upon the original capital of £300,000.

VII. The clause in the former Act, restricting the speed on the Rail-road to twelve miles an hour, is now repealed. This, on a project started mainly for the down traffic, will be more satisfactory to expensive engine-makers, or those who furnish the machines, than it can possibly be to the coal traders,—who would be injured by a speed exceeding six or seven miles an hour. The conveyance of passengers was barely contemplated at first, which accounts for their having made only a single line, with so few conveniences for meeting trains. Passengers along a road where up-hill gradients, coals descending, and a difficult incline, are obstacles to speed! What a confounding together of that which requires rapid motion, with what demands a moderate transit; and which are therefore incompatible with each other,—especially where the curves are such as to render collision inevitable under great velocities. The calamities of other roads shew the extreme danger to which speculators may expose the public, by forcing passengers and trade along a single line of rail-way.

VIII. An excellent trimming of clause 3; by which the shareholders, if they chose, could have prevented the lavish expenditure they have hitherto writhed under; and allow no money to be raised which promised them no return. By this, no portion of the solicited sum could be raised without the consent, IN WRITING, of two-thirds of the legally valid proprietors; and certainly no thanks are here due to the Managers. It is true, they deposed through their mouth-pieces, that wasteful expenditure was common to all rail-roads; yet this logic is anything but satisfactory to subscribers. Precedents, especially bad ones, instead of being servilely copied, ought to operate as warnings. The estimates, to be sure, were admitted, by their own counsellor, to be drawn up without precision,—but wages,

and other charges, were allowed to become nearly double, for no other discoverable reason, than that the same had been permitted on other rail-roads.

IX. The six miles regulation was knocked out. In fine, the clauses 26, 27, 28, and 29 were negatived; 18, 31, 32, 33, 34, 35, 36, 37, and 38, were severally amended. The Managers, however, were allowed to retain the method which they now pursue, viz. that of paying 5 per cent. to the money lender, out of the capital of the Company; but even this power has been placed under stringent conditions, very different from those at first contemplated.

X. Having submitted these points of difference between the Bill shown by the Managers as "sure of passing," and that which, at an improper cost, they obtained,—I may proceed to state in round, but indisputable numbers, for the consolation of the shareholders, that the aggregate income will now be minus at least from eighteen to twenty thousand pounds per annum. Lest, however, this should be disputed, it may be as well to make a show which their own numbers—as concocted, and as gained—will warrant. Thus, then—

	Increase.	Tons.	Miles.	Sum.	£.
Tolls.	Coal..... $\frac{5}{24}$ d	× 240,000	× 17 =	3541	7,739
	Iron..... $\frac{1}{4}$ d	× 70,000	× 25 =	2430	
	Iron Ore.... $\frac{5}{24}$ d	× 40,000	× 25 =	868	
	Merchandize. $\frac{1}{2}$ d	× 18,000	× 24 =	900	
Freight	Coal..... $\frac{4}{10}$ d	× 240,000	× 17 =	6800	12,102
	Iron..... $\frac{1}{10}$ d	× 70,000	× 25 =	2916	
	Iron Ore.... $\frac{1}{10}$ d	× 40,000	× 25 =	1666	
	Merchandize. $\frac{1}{10}$ d	× 18,000	× 24 =	720	
					£19,841

Such matters would be of little concern, perhaps, to myself, as an individual, but for the glaring want of common courtesy in the document before us, and the weighty imputations against those who happen to think differently from themselves. We know that such poor wights have been publicly denounced in conclave as "fire brands," and their conduct has been stigmatised as "disgraceful;" while Mr. Sergeant WRANGHAM, particularly instructed thereunto, publicly and loudly declared, that Lord BUTE had fallen into the hands of "bad" advisers. Such *brutum fulmen* is somewhat like that of the damsels of Point

Beach, and about as much to be regarded ; but if Managers will fly to Parliament with propositions which cannot be maintained, or for objects quite unjustifiable, they really ought not to be surprised at being checked. In matters of this tenor, invective, however coarse, shall not supplant argument, nor point blank assertion be permitted to obscure fact ; nor will the union of both deter me from noticing such parts of this official Report, as I cannot but conceive myself somewhat involved in.

Those who drew up the paper, have deliberately chosen to print, and publish, what is inteded for a very pointed sentence, viz. "*The MOTIVES AND PRIVATE INTERESTS of the Opponents are well known to the Proprietors.*" This is an unsuitable missive for any but immaculate, and utterly disinterested Managers, if such there be, to have discharged ; and it is one calling for a few words, which, like Parthian arrows, in recoiling, may show that personal interest has so biassed, or rather swamped the judgment of some of the Managers themselves, that actions have ensued which can barely be excused under the plea of ignorance only. When we are thus told of the "known motives and private interests of the opponents," we cannot but recollect what Junius said upon a point in juxtaposition : " It is a very common mistake in judgment, and a very dangerous one in conduct, first to look for nothing in the argument proposed to us, but the motive of the man who uses it, and then to measure the truth of this argument by the motive we have assigned to him." I hope a few plain words will pull the sting, or intended sting, out of the Managers' imputation ; and show any reader who will wade onwards, that the sea-board projects of some of these speculators deserved to be brought up with a round turn. Such, at least, is my conscientious conviction ; and therefore I am rather moved, than provoked, to a discussion of the general merits of the question, as a nautical one. In shewing these bearings it will be proper to make a few traverses in the course, to attain a position from whence it will be all plain sailing.

The vast quantity of coal beds, iron mines, lime-stone, and ores, of Glamorganshire, must long have been known, as the existence of ancient bloomaries may readily be traced. Yet the inexhaustible mineral riches which late years have developed, have become the astonishment of those geologists who have directed their inquiries into South Wales.

And though all the best authorities agree, that the operations now in hand, however important they may appear, are in effect rather scratching than working the teeming districts, the annual product has become so enormous, as almost to change the entire economy of the county; and the agricultural reputation of Glamorganshire, so celebrated by the Bards, is becoming secondary to the mine and the furnace. Still it is matter of marvel, that these pregnant sources of wealth were treated with such utter neglect, that the date of the old workings is lost to history. Even the minute Leland overlooked them. He remarked that the mountains had "sum redde dere, kiddes plenty, oxen, and shepe;" that Aberdare was celebrated for a race of "horsis;" and that Rhygos grew "sum good corne;" but neither coal nor iron are alluded to. Indeed they were little appreciated till towards the middle of the eighteenth century, when Mr. Anthony Bacon raised Merthyr Tydvil from an insignificant village into a place of note. Yet the full value of the ground was so little known, that two leases of land belonging to the Marquess of BUTE may be cited. In 1748, the large estate of Dowlais was let for ninety-nine years at a rent of £26; and ten years afterwards Hirwain was granted on a similar lease for £23. As an index of the increase of produce, it may be mentioned that Dowlais employs one thousand men in the coal mines, one thousand men in the iron mines, and two thousand five hundred in the works; that there are about £17,000 paid monthly in wages; that fourteen hundred tons of coal a day are raised to feed its own fires; and that a mere slice of the territory has been sublet for £6000 a year. But, perhaps, the growth of the Glamorgan iron-trade may be best illustrated by shewing the number of furnaces put into blast during the last twenty years; a period in which the average service of a furnace has increased from fifty to eighty tons per week.

Furnaces in.....	1820	1840
Aberdare	2 —	3
Abernant	2 —	3
Cyfartha	8 —	12
Dowlais	8 —	18
Gadlys	0 —	2
Hirwain	1 —	4
Plymouth	5 —	8
Penydarren.....	3 —	6
Rhymney and Buts	2 —	8
Pentyrch	1 —	2
Total.....	32	66

With such stimuli to mining and smelting, a demand naturally arose for increased facility of transport to other parts of the world. Among the means of embarking and exporting these products, the river Taff was the principal outlet; and the so-called Port of Cardiff was held to be in extreme activity half a century ago, when the comparatively scanty supply was brought down from the hills in waggons, each bringing two tons, drawn by four horses, and attended by a man and a boy. Even Mr. Bacon's contract guns* in the American war, were thus conveyed for embarkation to the side of the Gwlat Quay, which from that circumstance was known for some time afterwards as the "Cannon Wharf," though that name has long been lost; and it is a proof of the growth of the town since that time, that the guns used to be proved from the street before this quay (St. Mary's), against the earth bank of the South Wall, across the end of the street; there being then no houses beyond the then gate, called Port-Llongay. Coals, at the same time, were brought chiefly from the Caerphilly mountain in bags weighing from 100 to 130lbs. on horses, mules, and asses, with a woman or a lad driving two or three of them. This was principally done in fine weather, for it was customary to avoid the incidental delays of frost, snow, or bad weather, by bringing in the winter stock at a particular time; and this provident collecting was called a *cymkorth*, from a Welsh word, signifying help, or assistance.

Such being the case, and the exports rapidly on the increase, a navigable canal was made under Acts of Parliament obtained in the year 1790 and 1796. This, for its day, was a bold undertaking, as it descends 560 feet in 25 miles, from Merthyr Tydvil to the Sea-pond below the town of Cardiff, being an average descent of 1 in 235, and there are upwards of forty locks, and as many bridges in its course. It terminates towards the Severn, by a tide-lock, which is remarkable as being the first, and for some time the only one in the principality.† It was commenced in the autumn of 1790; made navigable to Cardiff, and

* This contract was forfeited, it is said, from proof presumptive that the enemy procured a supply of great guns from the same source.

† This is not the only originality of the Glamorgan Canal; and in these driving days of rail-roadism, the reader may be reminded, that the tram, or rail-road, by the side of this Canal, was constructed under the first Act of Parliament ever passed for such roads. Nay, more; so long ago as the 21st of February, 1804, ten tons of bar-iron, and seventy persons, were drawn for nine miles along it, at the rate of five miles an hour, by the then infant power of steam.

partially opened in February, 1794; and fully completed in June, 1798, when its sea-pond received vessels of one hundred and fifty, to two hundred tons burthen. It was then found, that each barge with its load of twenty-four tons, drawn by one horse, and attended by a man and a boy, brought down just as much as had previously occupied twelve waggons, forty-eight horses, twelve men, and twelve boys. With such an improvement, the annual amount of iron exported increased so much, that by 1804, it accumulated to rather more than eight thousand tons. Still ships which could not pass a lock, of only ninety-seven feet long, by twenty-seven wide, and thirteen deep over the inner sill, and with only from six to eight feet water on that sill at the flood of neap tides, were under the necessity of loading out in the roadstead, by means of lighters; whence both injury and detention were of common and very probable occurrence. Indeed, such is the shallowness of the canal itself, that those vessels which get up to the wharfs are compelled to load, as it were, by instalments, dropping towards the gates as they deepen, and often completing their cargoes on the mud outside. Besides such disadvantages, the lock is upwards of two miles from the low water mark of the Severn, by an intricate approach up the Taff; it is always dry for three hours of each tide; and there are fifty-eight days in the year, during which the water does not rise to a sufficient height to pass vessels of one hundred tons.

But under all the inconveniences and limited capacity of this canal, it has given a most notable impulse to the commerce of Cardiff. Previous to its being opened, the whole trade of the town and neighbourhood was carried on from the old quay, at the back of the town. This bears an apt illustration, nor is it necessary to quote "*si parva licet componere magnis*." It was only in 1794, that London possessed but the same legal quays which it did in the time of Charles II: so Cardiff, in 1840, has only the same "legal quay" it enjoyed in the days of that monarch; the coping stones of which may still be seen close to the new slaughter-house. But to return to about fifty years ago. There were then two sloops trading to Bristol, on alternate weeks, carrying over wheat, oats, barley, butter, sheep, and poultry; and they were found sufficient for the traffic and the passengers. The canal, however, altered all this. Cardiff became a thronged mart for shipping from all parts, and the number of bottoms has actually been more than doubled in the last fourteen years, as may be thus seen:—

	NUMBER OF VESSELS ENTER- ING THE PORT.	REGISTER TONNAGE.	TOTAL NUMBER OF VESSELS.	TOTAL TONNAGE.
1826	Coastways 778 Irish 220 Foreign 111	61,469 16,949 11,592	1,109	90,010
1830	Coastways 935 Irish 499 Foreign 168	65,148 42,800 17,468	1,602	125,416
1835	Coastways 1,925 Irish 661 Foreign 236	126,573 57,894 28,211	2,822	212,678
1839	Coastways 1,982 Irish.... 709 Foreign 236	106,080* 62,516 28,991	2,927	197,587

Besides the timber, tin, wood, flour, bale-goods, and other articles of traffic, thus invigorating Cardiff, it may be illustrative to show how the mountain mineral-basin progressed in twenty years :—

YEARS.	TONS OF IRON.	TONS OF COAL.
1819	42,624	34,606
1829	83,876	83,729
1839	132,781	211,214

To understand more properly the effect of this surprising increase, in its ramifications, the reader should be reminded, that the quantity of materials estimated to be necessary for preparing every ton of Welsh pig-iron, is 3 tons of coal, 3 tons of iron ore, and 15 cwt. of limestone : or $1\frac{1}{2}$ tons of native ore, and a ton of foreign ore are mixed to produce one ton of pig-iron. About $27\frac{1}{2}$ cwt. of pig-iron will yield one ton of finished bar-iron, and about $3\frac{1}{2}$ tons more of coal will be consumed in this process. The following statement of the details for the last quoted year, viz. 1839, may afford a further elucidation :—

	TONS.
IRON.—By Dowlais Iron Company	40,495
W. Crawshay, Esq.	37,009
R. & A. Hill	15,762
Penydarren Company	15,540
Aberdare Company.....	11,307
Gadlys Iron Company	1,081
Taff Vale Iron Company	4,246
Brown, Lennox & Co.	4,037
Blakemore & Co.	3,304
	<hr/> 132,781

* This diminution of the Coasting Trade, is attributed to the recent Chartist training and outbreak ; and a strike at the Collieries.

TONS OF IRON	TONS.	TONS.
		132,781
COAL.—By Thomas Powell	27,096	
Powell & Co.	34,841	
W. Coffin	61,100	
George Insole	23,444	
Lucy Thomas	17,097	
Morgan Thomas	14,924	
John Edmunds	14,073	
Duncan & Co.	13,386	
D. Davies & Co.	8,978	
Aberdare Coal Company	3,373	
E. Evans	2,902	
	<hr/>	211,214
Total Iron & Coal.....		343,995

While the mineral energies were thus advancing, the entire state of the county was also undergoing a serious change; the effects of which may be thus seen:—

	1712			1808*			1839		
	£.	s.	d.	£.	s.	d.	£.	s.	d.
A bushel of wheat	0	6	0	0	10	0	0	6	9
A bag of coal at the pit	0	0	2	0	0	4	0	0	3
A labourer per day	0	0	6	0	2	0	0	3	0
A mason ditto	0	1	2	0	3	0	0	4	6
A ton of pig iron	5	19	0	6	15	0	3	10	0
Ditto bar iron	16	10	0	10	0	0	5	10	0

Such are the proofs of life and activity, which the local advantages of Cardiff infused into the vicinity. Yet this town, so highly interesting—both for historic claims and modern utility—has not the honour of even being noticed by the Savans of the Diffusion of Knowledge Society, in their *Cyclopædia*. But it does not greatly require the gift of prescience to foresee, that if any society should be publishing the geography of the empire a century hence, the capital of Glamorganshire will not be again overlooked.

To return. It had long been evident that, even with the advantages afforded by the canal, the nautical means were in no ways commensurate with the growing demands of the exports. The public, as well as individual interests,

* A time of war; therefore, corn and labour were very high. The price of wheat, however, so necessary a condition of this view, has been difficult to fix upon. Few people of large capital were then engaged in agricultural pursuits, and it rarely happened that any portion of the preceding year's crop was held over. Any delay therefore, in reaping the bread-corn was a subject of such dismay, that wheat suddenly advanced in price just before harvest, and again receded when the corn was housed. An intelligent correspondent, to whom I am indebted for some valuable returns on this head, says, "I find that the price of a bushel of wheat in 1700, was 3s. 11d. In 1706, it was only 2s. 7d. In 1709, it had advanced just to 8s. The lowest price I can find in the Eighteenth Century, was in 1743, when it averaged only 2s. 5½d. a bushel. In those remote periods, although the prices were low, the fluctuations were greater and more sudden than at present."

required that the coal and iron of the hills, should gain a more adequate vent, while the general articles of import wanted by the increasing population of the surrounding district, demanded a more ready and direct access from the sea. On those grounds, the Marquess of Bute, who is proprietor of extensive estates, and moreover the holder of high official stations in the county, resolved to undertake the removal of such disabilities and inconveniences as the commerce of Cardiff laboured under, by the formation of a proper port. This determination, when the entailed expences and risk are considered, cannot but be pronounced at once spirited and patriotic.

Lord Bute obtained an act for this purpose, in July, 1830, between which date and my visiting the spot, I had frequent communications with his Lordship respecting floating harbours, and their details; and more than once met Captain Beaufort, Mr. Telford, and Mr. Green, about this very point. At length, in June, 1833, I received a kind invitation from the Marquess, saying, that as he was about to attend the Quarter Sessions in Glamorganshire, he would be happy to carry me through a line of country, which he considered was somewhat new to me; the route being through Oxford and Cheltenham, across the Severn at Gloucester, and over the Wye at Chepstow. I am the more particular in mentioning this circumstance, since by the cross-examination which I underwent upon the subject, the Managers must have persuaded Mr. Sergeant Wrangham that he could shake me in the assertion, that I deemed the journey a mere trip of pleasure. But it actually was so,—and I scarcely recollect a more pleasing one in all its bearings; for having reached Cardiff, we went to Neath, up the Vale of that name, across the Hirwain Common to Merthyr Tydvil, and from thence down the Vale of the Taff to Cardiff again,—a tour which for variety, beauty, importance, and unintermitted interest, is not to be matched in a similar space, in any part of the world which I have yet visited. Another mare's nest of the "Crammers" was, the probability that I had seen a report upon the Cogan Pil, said to have been made by Mr. Telford; and many questions were asked on that head,—but I most assuredly never had. In point of fact, that would have led to nothing, unless his opinions chimed in with mine; for so sensible a man would no more have disputed a nautical point with me, than I would have wrangled on the catenary curve and suspension power with him.

It was during this visit, that I examined into the question which had been much mooted, viz., as to the preferable site for a new port—the Cardiff Moors to the East, or the Cogan Pil* to the West, of the estuary formed by the rivers Taff and Ely. I therefore made numerous inquiries, consulted various plans, and closely examined the locality. The opinion I arrived at, was totally unbiassed and disinterested; for as the whole of both sites was shown to me as the property of the Marquess, or such as an Act of Parliament would give him power over, I naturally considered it quite a matter of indifference which side might be adopted. And even though his Lordship, from a kindly feeling towards the town of Cardiff, had got his engineer to draw up a plan for the East side, I could easily infer that, from the representations which others had made, he was somewhat inclined to regard the Ely as the most eligible place.

On going over to Cogan Pil, I saw at once, that it was no place of refuge for a vessel of any magnitude to run for in bad weather, as had been erroneously represented to me. This arises from several irremediable causes, which are soon obvious to the seaman's eye, and will be alluded to presently. But the first and principal reason of my rejecting it, was its unsuitness for the commerce of the country. This will strike any competent person the instant he looks at it; and I venture to say, that it is a point on which nineteen out of twenty nautical men would concur; nor is there any good reason why they should not be unanimous. It is true, that there will be security enough from the weather for a few small vessels when once in; but it is also quite as true, that laden ships will actually be shut in there, by all winds blowing from between S.S.E. and N.N.E. These very winds would prove favourable for sailing out of the Bute Docks and bolting away down the Bristol Channel with square yards; and ships—besides their captains having enjoyed the comfort and safety of their vessels being always afloat—would avoid liability to demurrage and damage.

This, however, is a point, in which I will be particular, even to iteration; in as much as I cannot permit an opinion founded on experience, and indisputable facts, to be subjected to ideas which at best are only derivable from assumed intuition; and still less to the actual misrepres-

* Pil, in Welsh, is a small inlet filled by the tide. Ely is a diminutive, or corruption of Afon Llai, the mud river.

sentations of either deluded or designing men. The case shall be put so, that every seaman can judge of it; and I cannot but flatter myself, that my recorded decision—*“That at a very great expense, a very bad loading place might be made at the Cogan Pil”*—will be acknowledged not to be based in ignorance.

To hear Mr. Sergeant Wrangham’s opening address, and the evidence which followed on his side, a stranger must have imagined that the Cogan Pil, and the Bute Docks, were at a considerable distance from each other; and that the admirable roadstead of Penarth belonged exclusively to the former. But instead of this, though the Taff and the Ely diverge widely from each other in the interior, they both disembogue nearly at the same point; while the roadstead forms an outer harbour to both, which, even on the Admiralty plan produced before the Committee by the Managers, is called “Cardiff Roads.” Now I feel confident, that the difficulty of access to the Cogan Pil, the tides running at four or five knots an hour with a rise and fall of 32 feet, and the danger of being shut in there by fresh breezes from quarters which, if vessels were clear out, would carry them down the Severn with flowing sheets, will always be insurmountable obstacles. Then again, night navigation is out of the question, since, at present, I see no way of lighting so tortuous a channel, at all consistent with the outlay talked of. Moreover from the Pil, the head of Penarth forms a salient angle, with a projecting rocky shelf off its base, whereon the tides, rolling in from the Eastward, are curbed, and reciprocate with great strength, over the whole bight between the Fords and the outer mouth of the river, or the Ely-ooze.—From this I infer, that in winds, otherwise very desirable, no steam tug of the capacity at present used at Cardiff, would be able to tow a laden vessel from the Pil round the Point; and tugs of greater power would be inconsistent with mere coasting craft.

This is a point on which much time and money were wasted in the committee inquiry; for there can be no doubt but the Managers themselves were deceived, or they would hardly have permitted their Counsel to persist in asking the suicidal questions he did, as to large-sized ships taking refuge in the Ely. It was a complete delusion. I not only never saw, but in all my inquiries never heard of, any but very small craft going there at all, with the exception I am about to speak of. The only square-

rigged vessel of which I received information of actually having got into the Cogan Pil, was H. M. Sloop Shamrock; and this case was made great use of in bolstering up the capacity of that creek, and in getting it vaunted as a perfect haven. It was rung in my ears that a "frigate," of three masts, and what not, had run in from choice, and tarried there for many weeks. Now, knowing that this boasted man-of-war was only rated as a sloop, I could not digest the whole story; but in order to admit her draught to be of some importance, I resolved to assume her burthen at about 500 tons; or outside that of a Sphynx, a Daphne, or a Crocodile, of former days; and within that of the Rover, the Dido, the Champion, or other sloops of the present hour. But on meeting her commander, Captain Martin White, at the House of Commons' Committee, I was surprised to learn that the Shamrock was only *rated* a sloop for especial service; that her burthen was not more than 187 tons; and her draught of water but 11 feet; that her mizen mast was only a jigger-spar which he had added; that he got her in and out of the Pil with such extreme difficulty, that nothing but absolute necessity should tempt him there again; and that the choice of port was Hobson's, as he was on a duty which required so many of his men in the boats, that he was compelled to resort to a place where the Shamrock could be left in safety,—she being too large for the Old Canal Lock, and the Bute Docks not being then in existence. We shall see the Captain's own account of this anon.

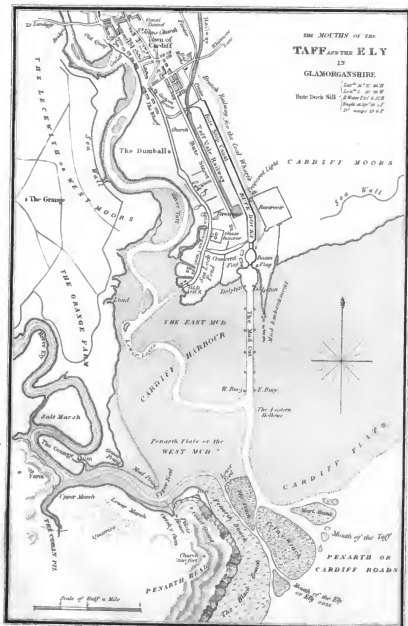
It is true, that with light winds from the quarters we have alluded to, vessels under proper management may be able to take advantage of the ebb tide, which runs at times with effect even to windward, and might give a lift in the two twisting reaches they have to fetch along. But the steep and hard clay bank which runs out from the Grange Point to the Cwtsh-y-cwm Reach, where the channel at low water is remarkably narrow; and the two shoals at the Ely-ooze, called the Cefn-y-Wràch, and the Patch, are serious obstacles to such a movement on a falling tide. The Cefn-y-Wràch is a gravelly bank on marl, 44 feet from Penarth Point, at low water; and when it is on a wash, there are $3\frac{1}{2}$ feet water at the entrance of the Bute Docks. The Patch is opposite to Penarth House, 74 feet from the beach; and when it is on a wash, there are $5\frac{1}{2}$ feet water at the Bute Dock Sill, whence it is plain that it is two feet higher than the Cefn-y-Wràch. The Patch shows

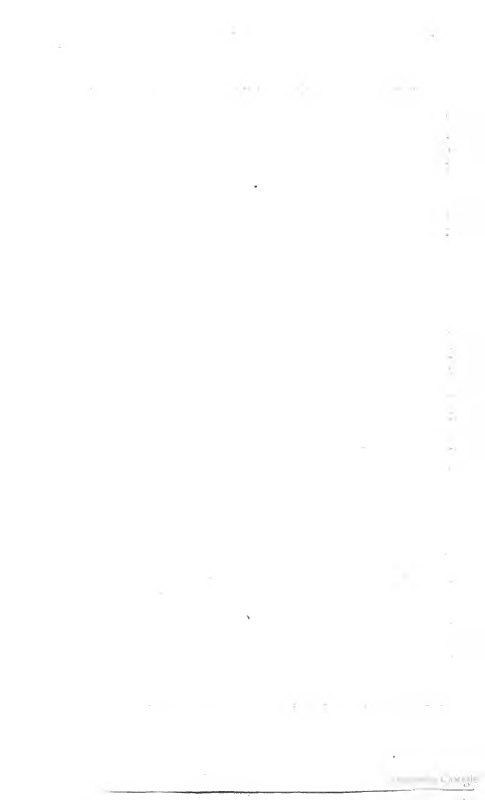
at four hours ebb nearly, and the Cefn-y-Wrâch soon after; but both may be easily avoided, if a vessel, bound into the Bute Docks, brings Cardiff Church in contact with the western glass-house. Both these shoals, as well as some smaller ones about there, are composed of marl, similar to that which lies under the shingle of Penarth Beach, and which shows that the flowing of the rivers has separated them from the point itself. Besides these, there are also two fords which extend nearly across the river, above the two shoals, on which there are four feet less water than in the Bute Cut. These impediments, together with the blindness of the entrance, the rapidity and contrariety of the tides, the intricacy of the channel, the flaws of wind from the heights, the stream running across the fair way in obedience to its meanders, the occasional freshes from the river, and the probability of catching upon the steep mud banks, where legs are altogether useless from the nature of the soil, will always render vessels liable to great inconvenience and danger, whatever may be effected under a train of favouring circumstances. Towing, indeed, was talked of, but the notion could never have been seriously entertained; yet it was deposed, that with foul or Easterly winds this might be done "with very great facility." Now supposing the "horse power" and the tow rope to be exceedingly good, and the path most excellent, I am at a loss to know what is to keep a vessel, thus harnessed, from taking the well-known projection under Penarth Head, emphatically called the *Black Bench*.

It is not a little remarkable, among the many notable oddities of this inquiry, that not one of these obstacles was even hinted at by the salt-water witnesses, on the side of the Managers of the Railway. Yet the Cefn-y-Wrâch and the Patch being formed of the new red sand-stone, on which the lias of Penarth rests, and through which the two rivers have eaten their way, might have revealed a little of the action and working of these streams to an observant eye. Among other features, it is to the oblique, and as our Transatlantic friends have it, the *slanticular* direction of these rocks, from the point into the Bristol Channel, that the cause of some of the reciprocation of the waters under Penarth is owing. But however interesting the Cefn-y-Wrâch may be, in a geological and theoretical point of view, I am less surprised at its being overlooked by the Coganists, than that the steep hard spit in front of the Pil should have been totally unnoticed. This insuperable *bar*

THE MOUTH OF THE
TAFF AND THE ELY
 IN
 GLAMORGANSHIRE

Bate Dock Sill
 Lat^d 54° 37' 40" N
 Long^d 3° 20' 30" W
 H Water 221 6.25
 Depth 42 1/2' to 17'
 D^r range 12 6.5





is such a detriment to the access and egress, even at high water, from the eastward, as to form a main feature in the nautical view of this spot. To be sure, it is an additional barrier against the elements; and it is matter of surprise that they did not enumerate it among the securities they boasted for vessels, when once in. For, though Penarth could not, as the learned Counsel asserted it could, shelter shipping there from ALL winds, yet it would be well seconded by this spit, in some gales. The witnesses brought forward by the Promoters of the Bill, professed to know the beach so intimately, that if a ballast-lighter had loaded there, they would have missed the cargo; but they kept us entirely in the dark upon these heads. Nor was this their only omission: when they deposed that vessels could readily enter the Ely, load, and depart, in the self-same tide, they neither told us how it could be done; nor how vessels which are to take the ground, can be thus alert. However, no doubt, there will be ample proof, when the six hundred thousand tons shall be embarked there annually. Would that no one's head or heart ached till then!

Another point which the Managers seemed totally unprepared for, was the fact which I asserted, that the set of the stream in the Ely was *across* the fair-way. To have demonstrated my reasons for such an observation, would have been incompatible, perhaps, with the nature of the examination: but it is well known, on hydro-dynamic laws, that if the current of a river is regular, and in a right line, its centre, or line of greatest velocity, will be precisely in the centre of all the sections; but, on the contrary, where the bed is irregular and full of windings, the line of greatest current will also be irregular, in exact proportion and conformity to the meanders of the bed itself. Hence, by this principle, when the sum of accelerating forces surpasses that of resisting ones, the current is forced to percussion against any obstruction, in a compound ratio to the plane which the obstacle opposes to the water,—of the sine of the angle of the incidence of the flood,—and of the square of its velocity. But without studying the matter far, the practical observer will have seen that, where there is much tortuosity in a river, the stream will always set strong on one bank, and there, meeting a check, it is deflected, and away it shoots off to the other.

Such are the impediments to the commodious navigation

of the Ely; and such were my reasons against the Cogan Pil, as a commercial port. But as the Managers have chosen to say, in their Ninth Report, that "*The advantages of the Ely Branch were again attempted, but ineffectually, to be disproved before the Committee on the Bill, and Parliament has now for the THIRD time recognized the expediency of forming that Branch,*"—I declare it is not a correct statement. The Committee never pronounced an opinion, nor legislated on the question at all. On the contrary, they patiently heard the lengthy and expensive discussion to its close; and then leaving it as having been already heard before Parliament, in 1836-7, they declined interfering, and proceeded with the remainder of the Bill as a mere money-matter; its object being only the power of getting more cash, and extending the time for completing the works,—with some new ledgerdemain clauses as to the manner of raising the wind, and disposing of the shares. The Bill did not authorize any new works; and the Managers would be puzzled to shew any clause therein relating to the Cogan Pil Branch. And as to the mysterious bond they gave—without the consent of a General Meeting—by which £56,000 were diverted from the purpose for which this money was to be raised, its legality was left to be settled before the ordinary Tribunals. So we may conclude that the law expenses are far from being closed.

As to the hint about the "ineffectual attempt," I can only say, that the result of my inquiries and researches, established upwards of seven years ago, remains unshaken; and being founded upon incontrovertible facts, must, with all due submission to the Managers, retain their force, whatever may be the Acts of Legislature, or the Schemes of Interest. From a full conviction of this, I fearlessly put my opinions forth, confident that none are likely to contradict them, but such as want formal proofs that birds can fly, and that fishes can live in water. As to the loose testimony of those who are little conversant with nautical affairs, were it not for the mischief and delusion which they propagate, it would be merely an amusing absurdity. Aptly, though rather unpolitely, did Cicero aver, that those who will deliver opinions upon music or mathematics, without understanding those sciences, must talk nonsense. But without applying this rude aphorism, I will now turn towards the opposite side of the question, and take a general view of the nautical position of the Bute Docks, and their adaptation to commerce.

The river Severn* having a direct communication with the Irish Channel and Atlantic Ocean, and possessing a more ready outlet for receiving and bestowing the nautical benefits of commerce, than any other river in England; has the advantage also of being so far advanced, as it were, in the teeth of the prevailing winds of the British Channel, which blow from the N.W.-ward and S.W.-ward, two thirds of the year—that vessels from thence may often perform their voyages to the Mediterranean, Lisbon, and the West Indies, before those from the Eastern Ports can clear the British Channel.

The great rapidity of the tide, however, which to the westward of the Flat Holme lighthouse becomes an advantage, renders the navigation when to the Eastward somewhat dangerous, as, with the exception of Penarth Roads, the Severn affords but one deep water anchorage, sheltered against the prevailing winds; and the avenues to Newport, to Bristol and to Chepstow, are very much circumscribed by the different sands and rocky grounds in their vicinity, most of which dry at half tide, and all at low water. When the difficulties which attend the passages to these points are considered, with the exposed situation, and rough uneasy motion, which almost constantly pervades the pier at Swansea, where vessels when floating and grounding are continually subject to that heave and set, or grinding motion, to which careful seamen have so much dislike; it became evident, that a port of capacity was necessary, both for the public interests, and those of the great mining proprietors. And all commercial people are aware that the security, convenience, and despatch afforded by a floating dock, as compared with the means of discharging or loading in a tide way, or out in a roadstead, are incalculable.

I should here observe, that a part of my examination in the House of Commons, went to show the advantages of a floating over a tidal port—in one where vessels are certain as to entry and exit, remain always at the same level, and can work constantly—and another where ebbs, floods, freshes, and grounding, are followed by every inconvenience, if not by hogging.† But really I should have

* The local divisions of this stream are—1. From Gloucester to King Road, is the Severn River. 2. From King Road to the Holmes, is the Severn Sea. 3. From the Holmes outwards, is the Bristol Channel.

† Have the Ely-fanciers ever inquired into the number of broken-backed ships in the Usk?

held such a question too trite to be gravely entertained, even by those who view loading places as sheep do the stars ; for, in fact, however the judgment of a seaman may have been spurned in the dreams of speculators,—yet the dealings of wary underwriters, in making their insurances, might have given the Dreamers a broad hint on such a topic. Had they but referred to several old staggers yet living, they could have picked up a little about the crowded state of the Thames, under half its present commerce, before the London, the West India, the Saint Katherine's, and other docks were constructed ; and they might have learned how greatly it was desired to clear the Pool in the Thames, of its tiers of colliers, even though they are always afloat ; as well as the reason why so desirable a consummation failed. Liverpool, Hull, Bristol, and other ports, have derived immense advantages from such works ; and the changes even now taking place on the Tyne and the Tees, are acknowledged to result from experience. Indeed, to say the least, vessels either receiving or discharging at places which ebb dry, generally sustain injury, and are always subject to extraordinary wear and tear. But even South Wales is not behind hand in improvement, although the tenor of recent discussions would imply quite otherwise ; for there are Llanelly, Newport, and Swansea, making their essays ; and the Bute Docks setting a proud example, as a principal outlet for the mining districts.

By virtue then of Lord Bute's Act, a port has been constructed at his sole and individual expense ; the entrance of which is so well sheltered from the raking S.W. winds by Penarth Head and Arlope Point beyond, that the roadstead at the mouth of the Taff, is as favourable an outlet for the new port, as could possibly have been desired. The float is of great capacity for large shipping ; so as not only to be adequate to the present trade, but to such an increase as may be expected to arise from the accomodation thus afforded. It is cut into the Cardiff Moors, where, if commerce should ever increase beyond the convenience now offered, docks, wharfs, and warehouses, might be added to any required extent ; it being difficult to assign a limit to the commercial capabilities of the place.

The floating harbour already made, is entered through sea-gates of forty five feet width, which open into a spacious basin, with an area of about an acre and a half, and calculated for vessels of great tonnage. The main entrance-

lock is situated at the north end of this outer basin; it is one hundred and fifty-two long, by thirty-six feet wide, dimensions which were assumed for the locking of ships of six hundred tons burthen. Passing this lock, the Ship Canal is entered: it extends in a continuous line towards the town of Cardiff, one thousand four hundred yards in length, and two hundred feet wide, comprising a mile of fine wharfage; and varying in depth from nineteen to thirteen feet.* There are massy quay walls, armed with stout timber fenders for more than two thirds of the extent, with a coping of huge blocks of chiselled granite. As the expense of all this has been variously rumoured, an exact account is requisite to give an accurate view of the magnitude of the undertaking. But I may say, that when we consider that the ground belonged to the Noble Marquess, that much of the lime and stone came from his quarries, and that the piles were felled in his woods, the cost has been really enormous. In addition to these items, the outlay in hard ready money, from the commencement of the Feeder in 1834, to the examination before the Committee in May, 1840, was thus:—

	£.	s.	d.
To 18th September, 1839, by E. P. Richards, Esq.,...	204,548	13	4
To 30th ditto, by Captain W. H. Smyth	1,702	19	11
In October, ditto	2,189	18	8
In November, ditto	832	10	2
In December, ditto	1,553	5	9
In January, 1840, ditto	2,554	4	9
In February, ditto	3,658	18	3
In March, ditto	3,349	0	6
In April, ditto	2,360	0	4
Total	£222,757	18	8

The magnitude of the work by which such a cost was incurred, may receive illustration from further particulars:—

Earth excavated to form the float	562,995	Cubic yards
Ditto.....ditto.....mud cut to it.....	153,120	ditto
Ashlar Masonry 15,104 tons of stone	226,566	Cubic feet
Rubble ditto .. 64,780 ditto	6,399,251	ditto
Bearing and Sheet-piles driven	5,996	in Number

The Bute Docks are entered by a straight open channel, twelve hundred and fifty yards in length, cut through the mud-lands, from a part of the roadstead called the Eastern

* There are five hundred yards of nineteen, or rather eighteen feet and a half depth, and all the rest is thirteen feet.

Hollows,* where the two outer buoys are placed, and leading up to the sea-gates. The alignment, or trend of this channel is N.N.E. and S.S.W. by compass, being led thus to be effectually sheltered by Penarth Point; and throughout the whole length, as early as half tide, there are from nine to twelve feet of water, deepening at high water to thirty-two feet six inches in springs, and twenty-two feet seven inches in neaps. In addition to ten warping buoys—five on each side of the cut—there is a substantial pair of Dolphins, two hundred and forty feet from the Docks, and nearly the same distance apart, so that when there is water sufficient, a vessel may with the utmost confidence boldly run for the Dock Gates in any weather, keeping the warping buoys and the Dolphins on each side, in a channel two hundred feet wide, using only the common precautions necessary when entering pier harbours in general. This Cut is daily improving, as the sides are made at a slope which will induce slips, and these slips are merely the ground taking a flatter and more natural inclination by the top sliding or falling inwards; then by carefully scouring off these extra deposits, the Cut will be gradually widened, till it assumes the form and aspect of a work of nature, rather than art. There is an embankment running down the east side for upwards of four hundred feet, rising to four or five feet above the highest, or equinoctial spring tides; and this will probably receive many additions. The width of the Cut near the entrance has already much increased since it was begun, and will continue to widen until it becomes like the old bed of the river; a natural consequence of nearly the whole stream of the Taff being turned into it, by means of the feeder, the reservoir, and the sluices.

This requires a further mention. In order to carry away all deposits that should occur in the mud-cut, a reservoir was constructed, adjoining the Docks; which it may be presumed is capable of the object in view. It is fifteen acres in area, and about five feet deep, dimensions which, with an additional trench, enable it to contain upwards of one hundred thousand tons of water. This large receptacle can be filled by the Feeder in seven hours, taking about four thousand feet a minute from the Taff;

* The Eastern Hollows being of some importance in this question, it may be useful to say, that its exact position is pointed out by the following intersections—Cardiff Church, a sail's breadth open to the westward of the Grass-houses; the eastern end of the Steep Holme in one with the western side of the Flat Holme; and St. Bride's church just appearing to the southward of Peterstoe church.

and it is discharged from the Reservoir by a culvert ending in three large cast iron pipes, or cylinders, of five feet diameter, which can, with the sluices in the gates, deliver one hundred thousand tons per hour. This, however, is more than required. With a full head, the initial discharge is two thousand five hundred tons per minute; but, as in a vessel emptying itself, the velocity is uniformly retarded, the average discharge is only one thousand two hundred and fifty tons per minute; so that the time occupied in emptying the Reservoir is eighty minutes.

Having recommended the navigator to steer boldly up this Cut, we may here drop a word or two to any one in the British Channel who may be desirous of so doing. But while making this traverse off the out-posts of Cardiff, the object of our essay will be so kept in view, that we shall not fall a single point out of the course.

All winds from E.S.E. round southerly to N.W. by compass, comprising no fewer than eighteen points, will prove fair for entering the Bute Docks; and all those which blow from S.E. round northerly to W.N.W. are fair for leaving them. Unfavourable weather and calms will be counteracted by steam-tugs; though it should be noted, that the winds which create any difficulty in getting out, are exactly those which no sailor ought to be outward-bound with, in the Bristol Channel. The dangers of the approaches to the Bute Docks, are of no moment whatever, when compared with other ports of the Severn, as they are all—with the exception of the Wolves and the One Fathom Bank—either to the eastward or westward of the fair-way channel. Among the former may be enumerated the Monkstone, and the Cardiff Grounds; and of the latter, the Cefn-y-Wrâch and the Patch, under Penarth Head, and in the mouth of the Ely river, as already described. There is also a ledge protruding seaward from Arlope Point in a S.E. direction; but this too is to the westward of the fair-way, and is of great service in checking the rapidity of the tide through Penarth Roads. Close to the southward of this ledge, a white buoy is placed in twenty-four feet water; this is to be left on the larboard side when standing towards Cardiff. Penarth Head cannot well be mistaken, even by a stranger, it being the highest headland on the north shore of the Bristol Channel. It is a fine precipitous cliff, jutting into the Severn sea, and surmounted by a small church, at the height of two hundred and fifty feet.

The Wolves form a small, but dangerous cluster of rocks, lying in a N.W. direction from the Flat Holme light-house, from which they are distant somewhat more than a mile; they shew themselves at four hours and a half's ebb; and the tide of both ebb and flood sets right over them, running very rapidly at this place. By bringing Cardiff Glass-houses just in sight to the eastward of the cliff at Penarth, a ship will pass two cable's length to the westward of the Wolves; and by keeping Barry Isle in sight to the southward of Sully Isle, she will pass safely between the Wolves and Arlope Point, leaving a chequered red and white buoy to the right. These rocks are a part of the substance of which the Flat Holme consists, and are usually called the Woolies, by the Welsh pilots. Here then is a nut for the etymological antiquaries—whether this name be a corruption of the English, or the English a corruption of the Welsh? As a sort of clue, it may be added, that a Saint Woolos was heir apparent of a king of Dimetia, in the fifth century, and that he founded the famous monastery of Llancarvan, near Cowbridge. But we must leave this important question unsettled, and proceed in our course for Cardiff.

The One Fathom Bank, upon which at low water Equinoctial tides, there is as little as four feet and a half water, is nearly four miles from the Flat Holme light-house, in the direction of west by compass; and therefore somewhat in the fair-way of vessels using the north side of the channel. By keeping the church at Clevedon, which is white, and very remarkably situated upon saddle land, open to the northward of the Flat Holme, you will pass considerably to the northward of this bank—where at half flood there will not be less than twenty-seven feet of water—whence the Glass-houses kept just open to the eastward of Penarth cliff, will lead into Penarth Roads. A black buoy now rides on the western part of this bank, in thirty feet water. On the English coast, and on the extreme of a ridge at the height of two hundred and seventy feet, stands Worle windmill; this, if brought in contact with the north side of the Steep Holme, will clear the One Fathom Bank to the southward.

The Monkstone is a single flat rock, with an iron beacon on it, to the south-eastward of the Cardiff Grounds, and to the N.E. of the Flat Holme; it makes its appearance at four hours ebb; and dries above water on low springs about ten feet. Though far removed from the entrance to

the Bute Dock, it lies very little out of the track of ships bound to the Usk, and must be carefully avoided, as both ebb and flood streams set furiously over it.

The sands denominated the Cardiff Grounds, are situated to the south-eastward of Penarth Head; they run, as it were, nearly parallel with the shore, at a mile from the low-water mark, and drying for the most part at low water, form the eastern barrier or breakwater of Penarth, or Cardiff Roads. They extend altogether towards the N.E. by E. about three miles and a half, and then merge in the Peterstone Flats. The water to the eastward and south-eastward of these sands is very shoal, but on the northern, western, and south-western sides they are steep, and between them and Arlope Point from two to six fathoms will be found at the lowest tides. The Cardiff Grounds consist of several ridges of very hard sand, which, towards the centre, at low ebb, are about ten feet above water. A black beacon buoy now rides in the S.W. part in twenty-five feet, which of course must be left on the starboard hand, when running in for the roadstead of Penarth.

Penarth, or Cardiff Roads, form a very prominent feature of this discussion, being the easiest and safest roadstead on the Welsh coast, as well as a kind of outer harbour to the Bute Docks. They include the space between the Lavernock shore, and the Cardiff Grounds, and afford excellent anchorage in four or five fathoms, with good holding ground; and have therefore immemorially been the resort of wind-bound ships and "shippelettes." The tide sets fairly through both ways; the flood running five hours and a half, and the ebb six hours and a half, or nearly so. Here vessels will ride easily and find smooth water, except it blows fresh from the S.W.; but even then, should the weather be such as to render the riding either hard or hazardous, they will find excellent berths and refuge on Penarth Flats.* The best marks for bringing up are, Cardiff Church three times its own length open eastward of Penarth Head, and Sully Isle just shut in with Arlope Point; taking care to keep Newport Church in sight to the westward of the one at Peterstone. You may also keep the western extremes of the two Holmes in one, bearing S. by W. $\frac{1}{2}$ W. On the Flat Holme rises a white tower seventy-seven feet high, on

* The Mud Flats on either side of the river Taff, have been somewhat improperly termed Cardiff Harbour.

which is a fixed light at one hundred and fifty-six feet above the high water of ordinary springs. But though I have mentioned the above as the finest berth in the Roads, a ship may anchor a mile, or upwards, further to the north-eastward of this position, and still have nearly the same water. A chequered black and white buoy is well placed on the northern edge of the Cardiff Grounds, close to what is called the Cardiff Hook, where a sort of elbow is formed by the curvature of the sands.

Considerably to the eastward of Penarth Point, and consequently quite out of the track of vessels bound into the Bute Harbour, from the west, are some rocky shoals, called the Orchards, which lie exactly upon the low-water line. Newport Church within its own length of Peterstone Church, will carry you to the southward of them; and St. Bride's Church in one with that of Peterstone, leads between them and the land, in not less water at half flood than eight or nine feet. The mud lands from the Orchards to the Cardiff Moors, form a plain, slightly inclined to seaward.

Such are the approaches to this increasing emporium of South Wales. There is positively no danger to be apprehended by any skilful seaman bound up the Bristol Channel, for we suppose the strength and direction of the wind, the state of the tide, and the distance to run, are the considerations upon which his canvass will be proportioned, and such other dispositions made, as not to incur the risk of over-shooting his intended mark: and I also take it for granted, that he has nerve and knowledge enough to handle his vessel properly. It therefore remains only to say, that the prevailing winds at the mouth of the Severn, are those which blow from the S.W. and N.W.; the former in the winter season are generally attended by thick weather, or drizzling rain; and previously to the approach of a gale of wind, the sea otherwise moderately smooth, gets up suddenly, and the wind backs against the course of the sun, an infallible prognostic, when confirmed by the barometer. Stormy winds, however, when accompanied by heavy rain from the S.W. quarter, seldom last long; but generally bring about a shift of wind, which, if to the northward of N.W. in nine cases out of ten clears up the weather. Strong S.W., W., and N.W. winds cause the tide to rise three or four—or more—feet higher than usual in the vicinity of Penarth, and will at the same time accelerate the period of high water; while those from the N.E.,

E., and S.E. will produce a contrary effect. Masters of vessels should not trust implicitly to the fidelity of the buoys, as they are moored principally in the vortex of the tide, and upon ground by no means good for holding. They should in all cases consider the leading marks, *as of the first importance*; and if the position of the buoy happens to correspond,—*well*; if not, the safest course is to consider that it has shifted.

If a master intends to avail himself of the excellent accommodations, so amply afforded for every class of vessels, in the Bute Docks, he should endeavour to get into Penarth Roads about the period of half flood, so as to enter the Docks *upon a rising tide*, as should be done at all pier harbours. Rounding Arlope Point for this purpose, upon the leading mark before given, of bringing Cardiff Glass-houses just open to the east of Penarth Head, at the distance of between half and three-quarters of a mile, *but not more*; by which precaution the vessel will be kept in the northern set of the tide, instead of that which inclines towards the Monkstone. At the period of half flood, a blue flag is hoisted at the Dock Gates; there are then ten feet water, at the least, on the dock-sill, as has been already stated, and men are on the look out to give what assistance the seaman may require. When there are fifteen feet water on the dock-sill, a white flag is hoisted. In fact, there will be found ten feet water at the sea-gates at the early period of half flood; sixteen feet at four hours flood, neap tides, which is sufficient for a ship of four hundred tons; and nineteen feet and a half at high water neaps. At four hours flood in ordinary spring tides, there will be twenty feet water on the dock-sill; and there are sixteen feet water during no less than six hours and a half of each tide. When inside the float, and fasts are carried to the mooring-posts, a ship is in perfect security from the elements. Here it may be useful to add, that the sea-gate is in latitude $51^{\circ} 27' 46''$ N. and longitude $3^{\circ} 10' 20''$ W.; that it is high water, on full and change of the moon, at six hours thirty-seven minutes; that the springs rise high and rapidly; and that the tides are, when free from the influence of wind, freshes, and other contingencies, thus:—

	ON THE SPRINGS.		EX NEAPS.	
	ft. in.		ft. in.	
Eastern Hollows	32	6	22	7
Bute Dock-sill	29	5	19	6

IN PENARTH ROADS.

	ft.	in.
On Equinoctial Tides	46	5
On Springs	39	7 moon's mean dist.
On Neaps	20	1

To these particulars, the several levels may be added, and any qualified person may at once perceive the tidal relations of the whole place:—

	ft.	in.
Old Canal Lock, above the Eastern Hollows	12	7
Ditto.....Bute Dock-sill	9	0
Ditto.....The Patch	7	7
Ditto.....Ely Ford	12	5
Eastern Hollows, below the Bute Sill	3	7
Ditto.....Ely Ford	0	3
Ditto.....The Patch	5	0
Patch above the Ely Ford	4	7
Bute Sill below the Patch	1	0
Bute Sill above low water mark—Equinoctial	13	3

I must dwell a moment on this point, because my opinion, though so based as to be incontrovertible, may meet many of the sapient remarks with which Shareholders of the Railway have been ear-wigged. I repeat, then, that the Bute Float is perfectly secure in all weathers, and quite accessible to most descriptions of trading vessels at half tide; they then advance between two straight banks, and consequently are not liable to the set of any cross-stream whatever; and moreover, they can be towed in and out, in any weather which would render such transit desirable. I proved before the Committee, that twelve vessels have already been passed in a single tide, although the port has only been provisionally open; and there is no doubt on my mind, that forty could be so passed. No state of weather has ever yet prevented vessels from going in, or coming out; nor is it possible for any tide, stream, or current, to obstruct the navigation of the Cut, since ships of three or four hundred tons may use it, full two hours before high water, while the banks are uncovered, and the water comparatively still. Nor even at the highest spring tides, has there ever been the slightest observable difficulty; indeed at that time, coasting vessels making for the entrance, do not try to navigate the exact channel, until about half-way between the Eastern Hollows and the Dock Gates; there being six feet over the plateau in neaps, and nineteen in springs, at the lower part. And with respect to the perfect security inside the float, there is not a single instance of a vessel stranding a hawser, or mooring-line

of any description, since it was opened. As to the increased facility and despatch afforded to shipping, some notable instances will presently be given. But to such as have said that small craft cannot here load and depart so quickly as in a tide-way, I reply, that we have already had instances to the contrary. Any vessel desirous of stopping only one tide, that enters at two hours and a half's flood, and goes out at, or even after three hours ebb, will have six or seven hours for such an operation, afloat and in smooth still water; though such extreme haste is rarely requisite. On the 21st Decemr, a small sloop came into the Float, discharged a cargo of stone, and was passed out again the same tide. Three days afterwards, the Maria, another country sloop, discharged fifteen tons of stone, and was let out again the same tide. In fact, so much has the utility of the port been acknowledged, that from the day of opening to that of the Committee-examination, though no wharfs were completed, the shipping amounted to this respectable number:—

	SHIPS.	TONS.
October	11	2197
November	36	3567
December	45	2168
January	31	2132
February	10	935
March	74	6990
April	87	7189

Already have the position, the facility of docking and undocking, and the general accommodation of this immense undertaking—certainly one of the most extensive works ever begun, completed, and brought into action, by an individual—been so tested, that it may be pronounced one of the best floating harbours in the kingdom; and therefore, really a national acquisition. Independent of its proximity to the ocean, it holds out to foreigners those desirable conveniences for loading and discharging cargoes, which are certainly not to be found elsewhere in the vicinity of the coal and iron districts, bordering on the Severn. In a word, the facts of the case prove the eligibility of the Bute Docks, as predicted by nautical opinion, and verified by experiment; while the rejected Cogan Pil has remained a mere port of straw, largely and loudly cried up, but never yet tested by any square-rigged vessel, except the Shamrock. Her peculiar case, as I have said, will come on presntly, when the proofs which were established before the Committee of the House of Commons are adduced.

The irregular, but continued fire of wadding—kept up by some person or persons unknown—in the shape of fanciful fabrications, and reports of trifles, enormously magnified and industriously circulated, must now be briefly alluded to.

In the spring of 1839, arrangements were entered into, by which I undertook a general superintendence of the Marquess of Bute's maritime and mineral affairs, in Glamorganshire. On repairing to Cardiff, I was surprised and amused, if I may so term the feeling, to find that his Lordship's friends were greatly alarmed by various and wide-spread rumours of the utter unfitness of the site chosen for a port—of the marvellous marine merits of the Cogan Pil—of the exorbitant tolls about to be inflicted on the trade—and lots of other grievances, which—somehow or other—I found, had generally been blown about previous to every railway meeting. Of this spirit of misrepresentation, I quickly had a notable sample. Soon after my arrival, a General Meeting was called, and, as all the subscribers must remember, the note of preparation was sounded, by direct assertions, that it would be impossible to open a communication between the Severn and the New Port! Then came the "pity" of the *soi-disant* friends, who affected to feel indignant, that a nobleman should have been persuaded to excavate the float, before trying to cut through the mud; and one gentleman, infected by the lugubrious oratory, and forgetful of the precept against rash vows, actually promised to "eat the first ship that should come into the Bute Docks!" But an ounce of aid is worth a pound of pity; the channel of communication was made with great ease; and, as was always expected, it has remained firm, and falsified all the *friendly* bodings.

The Cut being sufficiently advanced for accommodating the trade, a provisional opening of the Docks took place. Soon after this it was rumoured, in the same quarters, that the *Manlius*, a huge timber-ship, had her back broken in being passed through the gates; and that Lord Bute had given a large sum of money to get the affair hushed up, and compromised. This was evidently flitting through Mr. Sergeant Wrangham's head, when he was cross-examining me before the Committee, as will soon be shewn; but I can safely vouch and declare, that not a plank in the *Manlius* was hurt in the vicinity of the Bute Docks. On the contrary, she was permitted to heave down there, in order to examine into the hogging she had

received in the St. Lawrence; and as to the money paid, or received, a sixpence would cover all the expences on both sides, as far as the Docks were concerned. Then again arose a notable report, that the float was so exposed to winds, that there were dangerous surges over every part thereof; and that, in consequence, one of Mr. Crawshaw's barges, laden with iron-bars, sunk like a deep-sea lead. The payment of upwards of £80. for this, by the *Nautilus* steam-packet, for being the occasion of the accident, one *calm* morning, is the best reply to so barefaced and interested a falsehood.

This was followed by an assertion, which I learned from an unimpeachable authority, that Mr. Stephenson, the celebrated engineer, had asked me to draw the water out of the float, in order that he might examine into the condition of the walls; and that I refused, from apprehension of their unstable state. I may here remark, that I should certainly have considered this as rather a "broad" request; for to draw off such a body of water, from a port with many ships then riding therein, and others coming and going every tide, ought to be only done for some urgent and useful object. But I can confidently and truly aver, that Mr. Stephenson never spoke a word to me on the subject; and so far from my having an idea that there was any bad work or material, or the slightest risk of the walls collapsing, I had actually been insisting for several months, upon deepening the upper portion by dry-digging, as, in fact, has just been done; instead of the uncertain and expensive method of dredging under water, proposed to Lord Bute, by others. But the extraordinary diligence with which this report was spread, induced me to demand a statement from Mr. George Turnbull, the resident Engineer, upon the point, who replied thus:—

"The quay walls of the inner basin are founded on hard gravelly clay; but this part is only a very short length compared with the whole. The greater portion is founded on piles and wooden platforms, on the alluvial clay deposit of the Cardiff Moors. The piles are in general sixteen feet in length, driven close together at the front of the wall, with a double row of bearing piles behind, of ten feet in length. The walls are twenty-one feet high, eight feet thick at the bottom, and five feet thick at the top. In two places, which at a former period had probably formed water-courses, the substratum was so soft as to require additional piles to support the toe of the wall; but notwithstanding these precautions, the mass of clay pressing against new work, was such as to thrust it forward in one place, to the amount of nearly three inches. The masonry, however, was so well executed, that no fracture whatever took place, in any point; and the whole has since remained immovable, and become finally consolidated.

"The outer-basin walls are thirty-six and a half feet high, twelve feet thick at the bottom, and six at the top; they are founded on piles and platforms on a gravelly bottom. No settlement or disturbance of any sort, could ever be detected in these walls from the day they were built, although they are put to the severest test to which it is possible to subject masonry, viz.: made to sustain the pressure of a mass of soft loose clay, and exposed to the constant varying pressure of the tidal water.

"On the whole it may be stated of these walls, more than six thousand feet in length, that for stability, straightness, good workmanship and materials, it would be difficult to find anything superior in the public works of Great Britain."

But the *fanfaronade* was maintained, even after the water was let out in order to repair a leak in the lock. All parts of the country then became full of exaggerated reports, many of which were briskly circulated elsewhere; and some of those who haunt the Commercial Rooms at Bristol, with poetical and Chattertonian invention, thought proper to lay the damages at sums varying from £30,000 to £100,000. Nay more, after the standing walls had refuted all such falsehoods to the beholders in Glamorganshire, recourse was had to the flying artillery of the London Press. An article was concocted for insertion in the Hertford Reformer,—of all papers in the world for a matter on Docks. This was caught up by the Globe, and of course went the round of its cotemporaries. But glaring as was the malignant untruth, the writer of the paragraph would probably no more blush at habitual falsehood, than a negro at his nakedness. It is dated Saturday, October 17th, 1840, just in time for the Sunday papers, and runs thus:—

"THE BUTE DOCK."—Very serious accidents have occurred at the new docks erected by the Marquis of Bute, at such a great cost, at Cardiff; the wall which was the admiration of all who witnessed it, and the conducting pipes, having fallen to pieces. The repairs and the alterations rendered necessary by this unfortunate accident will, it is said, tax the Noble Marquis's munificence a further sum of £30,000. They have been commenced under the superintendence of Mr. Stephens. The docks were only opened in October last year."

The casualty which has actually happened to these works would, to a superficial observer, seem to countenance the rumour in some measure, but that it differs from the truth, as widely as does a white-squall from a rainbow. I allude to the leak in the fore-bay of the lock, in which the execution of the masonry, is certainly not such as might justly have been expected from the persons employed; where a vertical pressure of not less than nine pounds to the square inch, drove on all the bearing parts of the apron; so that there was a possibility, if not probability, that a *blow* might take place. Every great work, however conducted, is liable to damage arising from oversight, or want of attention to the details; and neither the Bute Docks, nor even Railroads can claim exemption from so general a rule. But this leak did not come like a thief in the night; it has been watched from its first weeping; and as it was seen, that no palliative could be of effect under

a head of water amounting to more than eighty millions of gallons, Lord Bute resolved upon having it thoroughly cured, while the upper part of the float was excavated to a greater depth. This was a noble determination, and as the repair is being performed in the most substantial manner—though with all the economy consistent with the necessary degree of firmness to warrant an expectation of durability—the event will show, that as there is a time for all things, so here will be a thing for all times. A principal defect was very unexpectedly found to arise, in the use of inferior lime, or dead mortar, among undressed stones, where the best ashlar was expected. The whole will now be secured by solid foundations of brick-work under the floor of the gate platform, closed by a fore-bay of well-shaped granite; and across the upper extremity of the floor will be two rows of well-driven piles, twenty-two feet long, filled between with excellent brick-work. Sheet-piling has been extended quite round the return walls, which, not being carried down sufficiently deep, have also been under-pinned with the best brick-work, to a depth of eight feet. Such are the remedies for rendering the fore-bay impervious to water; and to restrain the lateral pressure of about two hundred and thirty tons upon the gates, when the lock is empty.

It will be recollected by all who have studied the erection of Eddystone light-house, that the Aberthaw lime of Glamorgan, or blue lias, with pozzolana, experimented in 1756, produced that mixture which Smeaton first ascertained to be the most perfect composition of water-mortar. The same is being used at the Bute Docks in 1840, by the present Mr. John Smeaton, the worthy representative of that great and talented engineer.

This, then, is the amount of the mischief, which, whatever may be said of the work, cannot impeach either the plan, site, or capacity of the port. But as the stoppage was announced by public advertisement, before the last Railway Meeting was convened, it was too favourable an incident to be lost by the Managers of that entertainment; and they inserted in the body of their Ninth Report, a truism on the eligibility of having two strings to their bow. Yet in wishing for two ports, while one alone requires a surrender of wealth sufficient to have startled even Croesus, of opulent memory, there is no claim to originality. The luminous Mr. Joseph Millar has recorded how an Emerald, from Dublin bound to Holyhead, desired to

secure his passage by two ships, lest one should be lost. So, the Managers, not keeping the fear of other people's pockets before their eyes, thus naïvely express it. "The advantages of a second outlet to the sea for the traffic of the rail-way, in the event of any obstruction at either place of shipment, is too obvious to require comment." Laud we the Gods!

It is worth being distinctly mentioned, that since the lock has been exposed to the full glare of day, and consequently to every body's gaze, some people assert that they knew of these defects all along; and were well aware that mere rubbish, and wretched cement, had been most treacherously made use of. Not being willing to impute so unprincipled a concealment to such parties, I think it more merciful to disbelieve the assertion altogether.

Another topic of "pity" in time for the sympathies of the June meeting, was the alarming revelation that the houses now erecting at the sea basin, were sinking with their foundations into the mud, like a ship in the Maelstrom. This was startling enough—but what effect such subsidence could have upon the trade of the docks, or upon rail-road proceeds, is as yet unknown. But I am happy to state most positively, that there never was the slightest ground for the assertion; that the said houses are well bonded and built; and that if such settlement had extended to an inch, the stone cornices would immediately betray it.

Tales like these have been bandied about *ad libitum*, but being as destitute of wit as of veracity, had hardly been worth relating, except for the buzz which they excited when the note of preparation blew; as every share-holder in Cardiff, must well remember. As to the plesantry of some one sending word from London, that I had "broken down" in the witness-box, before the Committee of the House of Commons, last May, it was perhaps only a wag-gish way of alarming such friends as might care a straw about me. How far a person better "crammed" than Serjeant Wrangham was, might have effected this I know not,—but he, probably never having studied nautical affairs, till he was thus sent to sea by the "Crammers," was far too petulant to be formidable. I might on being worried and vexed with a quantity of questions having no real affinity to the matter in hand, like Hotspur, have "answered neglectingly;" but I trust no wilful "mistake" could be laid at my door. The coiners of these insidious reports may keep obscured, after the manner of a cuttle-

fish; but the utterers of them are pretty well known. However, it is enough for the present purpose, to remember that the value of such an allegation resides in the statement itself, without regarding the person advancing it. Some of the fables were indeed nearly traced to their fabricators; but Lord Bute's Solicitor advised me, as they were really so absurd as to carry their own refutation close upon them, to treat them with utter contempt.

Yet such calumnious assertions, although so groundless as to be ridiculous except for the motive, must be noticed, lest they assume the garb of truth, which, as Shakespeare informs us, "loves open dealing." It may therefore be necessary to try back a little, in order to meet the imputations and arrogant assertions of the Ninth Report of the Taff Vale Railway Directors. In doing this, I hope to stand acquitted of any other object, than what those imputations demand, viz.:—a fair and accurate statement of what has actually taken place. And though firmly, I propose to tread very lightly; and to advance nothing but what is clearly capable of demonstration, in strict adherence to the motto which I observe on the Merthyr Guardian:—

"Y GWIR YN ERBYN Y BYD."

The which, being in to me, a sealed tongue, I am told is equivalent to the school-boy phrase—

"Magna est veritas et prævalebit."

Or in good vernacular old English—

"Tell Truth, and shame the Devil."

Mr. Cubitt had hardly undertaken to proceed with the large and expensive works we have mentioned, for the Marquess of Bute, ere some of the principal freighters of the district projected a rail-road; this, as it proposed in a manner to join the sea and the mineral basin, was greatly approved, as a scheme at once combining simplicity and excellence.—Merthyr and Cardiff were then the principal considerations, as they ought unquestionably to be; and the prospectus displayed such a rose-tinted prospect, that the measure became exceedingly popular. But, as is not unusual in concerns of this nature, the profit of certain proprietors soon became the preponderating ground of action: nor am I much inclined to carp with that, if such men, in catering for their own interests, would also attend

to those of the many who help them by subscribing; and would refrain from vilifying the efforts of others. But the Managers of the Concern, with a view of exporting their minerals to the largest advantage, cast their eye upon Lord Bute's undertaking, and coveted its possession. With the hope of gaining such an end, they had the modesty to make a proposal, that the Rail-road Company should lease the whole of the western half of the Ship Float, or the very valuable tract lying between the Bute Docks and the Glamorgan Canal, at a rent of £1,000 per annum. They moreover struggled to get the port dues on their trade limited to two-pence per ton, in and out; but foreseeing that the traffic, from enlarged accommodation, must greatly increase, they offered to guarantee to his Lordship, that these dues should amount, on an average, to £2,500 per annum.— These magnificent offers, which would hardly give one and a quarter per cent. on the outlay, happening to be tendered by those whose percentage will, on all tacks, be enormous, was of course declined. The Managers, as I have before remarked, appear to think only of their coal and iron, and would willingly monopolize eleven-twelfths of all the conveniences. But they ought to recollect that the port was not made for them only, urgent as their claims are; and they should bear in mind, that general traffic is, as it ever will be, where it finds a location, greatly on the increase; that bonded commerce only waits for especial security-warehouses being established; and that the Custom-House receipts are swelling of late, in a very unlooked-for proportion. I will submit sufficient numbers to show the operation of the last ten years, though for 1840, the sums are only made up to the close of October:—

YEAR.	IMPORTS.		WAREHOUSED GOODS.		EXPORTS.		TOTAL.	
	£.		£.		£.		£.	
1831	2589	.....	—	....	687	....	3289	
1833	1986	.....	—	....	1079	....	3069	
1836	2891	.....	3397	....	1361	....	7651	
1839	2676	.....	4828	....	1528	....	9033	
1840	1746	.....	5865	....	1598	....	9209	

Not succeeding in their very notable scheme, the Managers hit on a stratagem which might have almost done honour to Polyænus himself. In 1836, they compassed the starting of Cogan Pil, on the river Ely, as a rival to the Bute Docks, in hopes of reducing his Lordship to their own terms. But here they reckoned without their host; and great was their surprise on finding, in April, 1837, that all the objection taken to their design was, that the

proposed branch of the rail-road should only be postponed in its execution, till after the main line was completed. In the meantime the Managers, whatever were their real ideas, had bestirred themselves so industriously in vaunting the imaginary marvels of their new, and only conditionally adopted project, that many of their followers were actually deluded into a firm belief that the Cogan Pil branch—which would cut off a fifth of the trunk, being five miles from Cardiff—was absolutely necessary to the well being of the Company. In order to render this demonstration the more effective, and feeling how visionary it would be in the eye of sense to pit a tidal port against a floating one, capacious docks were talked of, plans of which were even officially lodged; and a copy of them is actually in my possession. But as these seemed too expensive even for the most sanguine of the flock, to contemplate, the Schemers descended from their stilts, and declared that all they wanted, was to encourage the small coasting-craft with a few staiths. Yet, by a solecism in the concocting, these very vessels were to carry off no less than six hundred thousand tons of coal, and open the London market to Welsh industry! What they are to do about organising general traffic, has not yet transpired.

When the Coganites were told, that all loading places, as the means increase, are converted into docks, and the shipping improved in consequence, their argument ran to the effect, that—"We in Wales are making shift with boats in tide-ways, and will not be amended." In the second bill, therefore, the notice for making docks was abandoned, and "shipping places" introduced in their stead. A trumpet was now sounded, that the local craft were best aware how to conduct the local trade, and ought therefore to be incited to proceed in their own way: but I demur to the premises as well as to the conclusion. Aye, and so do others; for were these Managers earnestly bent on going there, how quickly would it be rung in the subscriber's ears, "that without docks there would be no interest for the sum expended!" But they never could have seriously entertained so wild a design of enormous outlay, and expensive opposition for questionable purposes. I hope the nature of the place as a port is already shown; and no real increase of trade could be in view, since whatever portion of coal is made to diverge to the Ely, is just so much less freight on the main-line to Cardiff. I am speaking only of what can be exported, for

there can be no doubt that the improved method of working the coal seams must greatly increase the product. The coals were extracted, till about twenty-five years ago, without system, and in a manner perfectly discreditable to the humanity of the supervisors. Veins were then worked at random; a third of the coal was lost from want of skill; and the deepest level was abandoned on account of the danger arising from fire damp. But these are trifling considerations as compared with the almost weekly sacrifice of human life, by explosions of the carburetted hydrogen gas; there being then no local Coroner, and of course no inquest, or other form of inquiry upon the unhappy sufferers, except when accidents occurred on the occasional periodic visits of the county officers. In 1820, Mr. John Bedlington, of Newcastle, happily introduced proper ventilation, and a better system of mining at Dowlais; and a Coroner has recently been appointed for Merthyr Tydvil.

Such are the grounds upon which I distinctly and positively aver, that in 1834-5, when men were first invited to embark in making a railroad between Merthyr and Cardiff, that the Cogan Pil was not broached;—nay, more: that even after it was started, four of the first and principal Directors waited upon the Marquess of Bute, and offered to abandon the Ely altogether, if his lordship would support their bill in Parliament. Here is another pair of horns for them; they either thought the scheme excellent, and yet were willing to cast overboard the interests of their constituents for their own; or they knew it to be visionary, and had merely thrown a tub to the whale. Yet with all that had passed, and after having been seriously apprised, by what took place before the Commons' Committee, that, at least, there were *two* opinions on the propriety of their imaginary haven, did some of these Gentlemen assure their hearers, at the dinner conclave, that without the Cogan Pil measures were carried, there would be NO DIVIDENDS WHATEVER. This might have been taken only as verbiage and bluster, while confined to mere vapouring; but what will those who advanced money upon quite a contrary representation, think of the following extract from the Ninth Report? Speaking of the Ely, it is there asserted: "The Directors cannot therefore pass over this part of their Report, without emphatically reminding the Shareholders, that upon the support to be derived from them for the completion of this branch, depends the ultimate success of the railway." Prodigious!

And yet for tergiversation such as this, did the noted dinner-meeting tender thanks to the Managers. I trust that I have said sufficient to prove to any thinking person, that had gratitude prompted these acknowledgments, they ought to have been reaped by the opponents of the Bill,—but for whom, the original small subscribers had been swamped.

Although I only feel bound to notice the nautical parts of this discussion in detail, yet as Mr. Sergeant Wrangham, no doubt instructed so to do, twice led me to the subject of the Tariff published by the Marquess of Bute, to which my name appears; and as I otherwise underwent a long examination by the Committee respecting it, I am called upon to say a word or two. My views on this head, as I then stated, were most cautiously given, and upon due inquiry. I might therefore be gratified to find that they accorded, in the main, with those of other gentlemen whose opinions were asked; and whose names, if I chose to mention them, would hardly, from the part they have since taken, be enumerated among the “bad advisers” alluded to, with such pointed emphasis, by the learned Sergeant. On this occasion, the representations of the principal freighters were duly attended to; but it is clearly a case in which freighters are not the only persons to be considered. They certainly claim a very high attention as the great moving power; but a Tariff must be computed for those who provide wares for the market, as well as for those who seek a market for their wares. Lord Bute repeatedly told me his views upon these points; and I feel quite assured that he intended, in his Table of Dues, to charge what the accommodations of his harbour are worth, and of course, what the trade can bear; but no more. To be sure, his Lordship had in his Act, obtained a maximum sum, which, as I told the Committee—who expected to have the raising of the Taff Vale Railway rates handed in for their consideration—would ensure his not troubling Parliament again, even if his expences, and the capacity of the trade, increased. The maximum was not likely to be put in force, unless a combination of circumstances demanded and permitted it. Both tonnage and wharfage-rates were abated to meet the local views; and a full and detailed table, giving all the varieties depending on the destination of the cargo, and burthen of the vessel, was printed in June, 1839, to the extent of two thousand copies; which have been circulated as widely and generally as possible. Yet a principal evidence, being asked about

the Tolls before the Committee, the modified scale of which had been public full ten months before the inquiry, gave for answer, that "he knew Lord Bute could ask fifteen pence for shipping coals;" but he "did not exactly know whether the maximum tolls had been received or not by his Lordship!" Why then was a person, professing to know nothing upon so important a point, foisted into the witness-box to meet such a question? And why should a witness give any answer to queries which he was confessedly ignorant upon?

These tolls form a very initial point, in inquiring into the late mystification of so simple an affair as the railroad constituted. It were a pity, that men engaged in laudable and ingenious undertakings, should meet with a wall to knock their head against; but such as build a wall for that purpose, cannot come under this category. No refusal the Managers have received, can be misconstrued into a denial of any claim of right; and therefore cannot be conceived as an injury. Where the object solicited is merely matter of favour, the option of granting or withholding it, is always to be esteemed perfect. I am, therefore, at a loss to conceive the grounds of the strong language used in the Ninth Report; but a ray of light may be thrown thereon, by abstracting a portion of Mr. Serjeant Merewether's able summing up of the whole question.

The learned Serjeant having a great respect for the Hon. Robert Clive, regretted having occasion to allude to the bond for £56,000 given to him by the Directors of the Taff Vale Railway, obliging themselves under a penalty of that sum, to make a Branch Road to Cogan Pil, in five years. He was anxious to be clearly understood, that in censuring the Directors for giving that bond, he by no means meant to include Mr. Clive in the censure. But in as much as a clause in the Act of Parliament required the main line, from Merthyr to Cardiff, to be finished first; any bond to conduct a branch without reference to the foregoing clause, was virtually a fraud. Such it would certainly be pronounced by a Court of Equity, and therefore the obligation would be void. Besides this objection, the Contractors being only a provisional Committee, were not authorized to bind the rest of the Shareholders; especially while the Bill was in a state of transition from the Commons to the House of Lords, in the summer of 1836. The party had, however, but few scruples; they affixed the Corporation seal to the bond, though it was decidedly

unlawful so to do. The period will expire next year, when, if the Directors take upon themselves to pay the forfeit, the rest will be fully entitled to bring them into the Court of Chancery, for misapplying the funds entrusted to their care. The Act clearly defines the purpose to which the money was to be applied, and insists on the completion of the main line of road before any other, hence no bond to the contrary can be binding on the Company, though it may be construed into being individually binding, to those who signed the document. Their duty as Trustees, was to execute the Act of Parliament, and they are not warranted in putting the money to any other purpose. This was their imperative duty; and the instant they found that they had not funds enough to execute the main line, they ought not to have bought a single inch of land for the Ely branch. While all this was being "agitated," Mr. Robert Stephenson was fully authorized by the Marquess of Bute, to enter into a negociation with the Taff Vale Freighters, by which, for proper considerations, his Lordship was willing to bind himself, and his successors, to limit the dues, including every charge, to seven-pence per ton. This was a most liberal and correct offer, and was acknowledged to be such by all the parties addressed; and yet the whole arrangement was broken up on account of this bond for £56,000. Thus did a private contract debar every advance towards a compromise, despite the insolvent state of the Company's funds; and despite the clause in the Act, which provided for such works being first completed, as would bring grist to the mill.

Mr. Stephenson's being appointed to fix the Marquess of Bute's charges, and afterwards holding a meeting with the Directors, might admit of being construed into a virtual proof, that his Lordship agreed to the eligibility of the Cogan Pil. But the basis of his instructions to Mr. Stephenson was, only to consider of such a statement of his dues, as would enable him to meet competition with the Glamorgan Canal, and with Newport; not with the Ely, which last he justly considered would be absolutely excluded by such a scale, and by natural causes.

The fair and open course pursued by Lord Bute, has been but ill requited. In making the foregoing exposition, it was my first intention to adhere as closely as possible to the nautical topics broached by the Managers, leaving the monetary puzzle, and other choice bits, as bones between them and their constituents. There is, however,

another point which I cannot but animadvert upon,—yet as the reader must be getting tired, it shall be done, as Chucks says, in the gentlest way in the world. At the Taff Vale Railroad meeting in June last, it was stated by some of the Directors, that “although the Marquess of Bute had pledged himself not to oppose their bill in the House of Lords, yet notwithstanding that pledge, he was then about to renew his opposition in that house; when the Company, upon the faith of that pledge, had ceased their exertions in behalf of the bill.” It was also said, that a highly influential gentleman, whose name is pretty freely bandied about, obtained a promise to the above effect, before he would go abroad to meet his family. This, like various other reports, has been prepared to suit the sphere of those, who are ignorant of parliamentary proceedings; but the insinuations are sufficiently coarse to stamp their own animus. The key is this:—Since the regulations for private bills, which have been established in the House of Peers for the last three years, the only way of watching a bill in that house, is to lodge a petition against it. Now for the application of this to the Taff Vale concern. When Lord Bute’s Solicitor looked over the amendments, which the Company had been allowed to introduce on the last day of the Commons Committee, he found that they did not correspond exactly with the previous explanation, given to him by the Agents for the Bill. Accordingly he, and two other gentlemen, called upon those Agents to revise the equivocal points, which they promised to do on the third reading of the Bill. However, they did not keep such promise; but said they would do it in the House of Lords. It became necessary therefore to watch the proceedings while there; this could only be done by presenting a petition against it; and for that purpose the same document only was made use of, which had been presented to the House of Commons; merely with such substitutions as the circumstances called for. This being lodged in the hands of Lord Shaftesbury, produced a more proper tone on the part of the Agents, who had probably discovered, that Lord Bute could throw out the Bill if he pleased, by taking the ground that the original contract had been altered. It is hardly necessary to add, that this movement produced its proper effect, and there was no opposition to the Bill. Such is the plain truth; and such the empty vapouring of last June.

Great also has been the clamour, about the opposition

which, they say, nearly overpowered them. But could men expect that they would be allowed to yaw in their course so widely, and not be called to proper point? It was for glozed circumstances, that the original subscribers consented to go before Parliament. But instead of taking warning by having spent £22,000, in Acts and Law expenses,—exclusive of what their current proceedings would cost—on a simple line of about twenty-five miles of railroad; the Managers, instead of making a mere money application, adopted the most expensive and improper line of conduct, that could be devised. Instead of proceeding at once to plead their poverty and improvidence, they designedly opened their trenches by a comparison of the supposed defects of Lord Bute's port, with the assumed merits of the Cogan Pil; which, by the way, has been the usual prelude of the Taff Vale Railway meetings in general,—only that in this instance, the battery was not masked. So, what with carrying and keeping witnesses, and the tedious verbiage of many days, this useless discussion drew lots of money from the Subscribers' pockets, which could have been much better applied; for however some of the Managers might even have been duped, by their hopeful interests and ardent fancies, there really was not the slightest pretext for taking so costly a step.

The attempt at excuse, made by the Managers, for this strange procedure, as told me by undeniable authority, was, that "Lord Bute had brought evidence enough to smash the Cogan Pil as a port, if not counteracted." And a pretty counter-action took place. In such a crisis, what was the stringent duty of the "cramming" Managers? Why, clearly, to caution Mr. Sergeant Wrangham against mooted the question at all; and instructing him, if the opposing party should resort to it, to clap on a stopper over all; on the ground that, it had already been legislated upon. This might have saved thousands of good hard sovereigns to the spec. But after the learned Sergeant, as from his instructions probably he felt in duty bound, chose to shower down the opinions he had collected, without proofs; to broach the marvellous nautical facilities of the Ely; and to deal out groundless aspersions on the Bute Docks, in his very opening address—the Committee, who really could not wish to be dosed with the Cogan Pil again, determined, that as one side had had their say, it was but just that the diatribe should be replied to. The tedious detail was then allowed to "drag

its slow length along ; ” and the Committee afterwards, perhaps wrongly, considered that they could not, or ought not, to reverse the purposes of the Acts of Parliament 1836-7 ; proceeding therein according to established practice. The assertion therefore, in the Ninth Report, which says, that the so-called advantages of the Ely “ were attempted, but ineffectually, to be disproved before the Committee,” is *incorrect* ; the which, as Jeremy Collier has it, is a soft term. And the imputation of fraud, ignorance, or whatever else is meant to be conveyed under the pointless sarcasm, will be best left to the judgment of the disinterested reader of the following evidence on these points.

We will now, therefore, proceed to the House of Commons’ Committee, and there find proofs for what is here advanced. But I have no hesitation in asserting, that this is the actual and particular state of the case, which has given birth to so much discussion, and incurred such uncalled for expense ; shewing in what a different medium a plain tale may be viewed, as compared with the tenour of the Ninth Report of the Taff Vale Railway Directors, — a document which, being official, and on money business, ought to have contained none but incontrovertible statements. Respecting the nautical points treated of, I feel quite confident, that all experience will agree with me in the opinions I long ago put forth, and which have since been verified by facts. But in now turning to the examinations taken, I promise the “ gentle ” reader not to extract more from that “ *gurgite vasto* ” than what strictly relates to the ports themselves. Were I inclined to be jocular on other topics, there is matter enough ; but I shall closely observe a very wholesome precept, which, though often repeated, is, as *La Baumelle* has remarked, still a good thing to say :—

“ *Ne Sutor ultra crepidam.* ”

But for this, if I followed example, I might be tempted to poach on other people’s ground, without due qualification, and even criticize the costly Taff Vale Railroad itself. Everybody knows, that such undertakings are not intended for a mere exhibition of works, but to furnish—by simple and strong means—the best and most expeditious channel for the traffic already existing between given places. Their purpose is not to display lofty embankments, deep cuttings, fancy viaducts, and expensive tunnels, adding more largely to cost than utility. Something

very pithy might be said upon such points, even by a seaman. Yet my aphorism shall be adhered to. Though, when Directors spout about bringing down, and shipping off, at the Cogan Pil, upwards of five or six hundred thousand tons of coal—besides other goods and passengers—along an inadequate (and therefore ill-planned) single line of railroad, with so few turns-out and passing places, as it has, I will merely luff up, and let fly—"they may tell that to the Marines!"

PART THE SECOND.

EXTRACTS OF EVIDENCE GIVEN IN 1840, BEFORE THE HOUSE
OF COMMONS.

COMMITTEE ON THE TAFF VALE RAILWAY BILL.

CHARLES G. ROUND, Esq. North Essex, IN THE CHAIR.

ADARE, Lord Viscount, Glamorgan-
shire

Hon. F. IL. BERKELEY, Bristol.

R. J. BLEWITT, Esq. Monmouthshire

Hon. R. H. CLIVE, South Shropshire

W. L. W. CHUTE, Esq. West Norfolk

Earl of DARLINGTON, South Shrop.

W. EVANS, Esq. North Derbyshire

Right Hon. Sir JAMES GRAHAM,
Bart. Pembroke

Sir J. J. GUEST, Bart. Merthyr

Tydvil

JOHN JONES, Esq. Carmarthenshire

Capt. T. JONES, R. N. Londonderry

P. W. S. MILES, Esq. Bristol

C. M. R. MORGAN, Esq. Brecon

DAVID MORRIS, Esq. Carmarthen

J. NICHOLL, Esq. LL.D. Cardiff

PRYSE PRYSE, Esq. Cardigan

Sir R. B. PHILLIPS, Bart. Haver-
fordwest

Col. W. E. POWELL, Cardiganshire

Sir R. PRICE, Bart. Herefordshire

Lord G. SOMERSET, Monmouthshire

C. R. M. TALBOT, Esq. Glamorgan-
shire

J. H. VIVIAN, Esq. Swansea

W. A. WILLIAMS, Esq. Monmouth-
shire

Colonel WOODS, Breconsire

NOTE.—Though this inquiry was generally well attended, there were some members too much occupied to give their time to it; among whom was Sir JAMES GRAHAM. This I regretted, as further means would have been afforded that my opinions on the matter in hand, were not quite intuitive. Indeed, some pertinent remarks might have found place, relative to certain hydrographic and political objects on which I was sent for express, and consulted, during the time that Sir JAMES was First Lord of the Admiralty.

It being resolved by a party to obtain, by a Bill from Parliament, the power of borrowing more money for the railroad from Merthyr to Cardiff, to accommodate which to certain ears, an increase of tolls had been promised : and it being equally resolved, by another party, that there should be no invasion of the public rights, all the men of action assembled in London, on the 2nd of April. After the usual forms were passed through, and the reading of the petitions against the Bill had been heard, Mr. Serjeant Wrangham addressed the Committee, on behalf of its promoters. In the course of this, he stated, that the Ely was protected from ALL winds (*sic*) by the fine headland of Penarth ; outside which, he added, was the unrivalled harbour of that name ; and he asserted, that the river Ely led to another haven called Cogan Pil, where the facility of ingress and egress were so admirable, that vessels could always resort there, load and unload in a tide, and all that. On the other hand, he told us, there are the Bute Docks, only to be entered by a very narrow channel, where ships run every risk, that two cannot go by each other, and the tides rolling over the Cut, endanger them in passing and repassing. The Ely he said, was an open and free port, while the new harbour was the private property of the Marquess of Bute. The public were therefore in the hands of Lord Bute's agents, and his Lordship had fallen into the hands of "bad advisers," who countenanced his having the power to take enormous and exorbitant dues : and the learned Sergeant, forgetting the quantum which the Glamorgan Canal and other good things occupy, informed the listeners, that his Lordship exclusively holds all the land round Cardiff. He then expatiated on the absolute necessity of completing the Cogan Pil works, as the Company were under heavy engagements to Mr. Clive, to complete that branch—"THIS," he observed, "WAS A SUFFICIENT REASON FOR ASKING FOR THE MONEY." Becoming more pathetic towards the peroration, he declared that if the needful was not granted, all the splendid works between Merthyr and Cardiff, would remain a melancholy ruin. To prove these novel assertions, his first witness was—

Mr. GEORGE BUSH, the resident Engineer of the Railroad ; but where, how, or when, he imbibed his seaman-ship, was not shewn. He gave evidence on the nautical bearings, in the following manner, when examined by Mr. James.

Q. Are you nequainted with the relative advantages and conveniences of the Ely mouth and Lord Bute's new harbour?

A. Yes, I have investigated the places and circumstances of the two ports.

Q. Have you examined them ns Engineer of the Railway?

A. I have.

Q. Does the Ely run into the Bristol Channel at Penarth Head?

A. Yes, it does.

Q. Is that Penarth Head the promontory of an extensive part of high table-land?

A. It is.

Q. Does that afford a safe roadstead to the ships in the Bristol Channel?

A. There is a very good roadstead for the ships in the Bristol Channel, off Penarth Head.

Q. Is the mouth of the Ely a safer place for shipping than the entrance of the New Bute Harbour?

A. I should say it was decidedly.

Q. Lying so much closer to the promontory?

A. In the Ely they are in a more sheltered position I should say.

Q. Do you know where the entrance of the Bute Harbour is intended to be?

A. Yes, perfectly well.

Q. Does it pass for some distance through the mud?

A. There is a long channel cut through the mud, forming the banks.

Q. What is the width of that Channel?

A. It is not completed.

Q. Do you know what is the intended width of it?

A. I believe it is to be forty-five feet wide at the bottom, when completed. I have heard so.

Q. For what length is that cut outside the entrance of the harbour?

A. I think it is nearly three quarters of a mile.

Q. Would that be at all times a safe entrance for ships during high winds in your judgment?

A. I should think that during very rough weather vessels would hardly be able to navigate the channel safely either in or out.

Q. Is there a safe and convenient access into the Ely?

A. There is.

Q. Would the Ely be a safe and convenient place for shipping? For that kind of vessels that are used in the coal trade at Cardiff?

A. I think it would be, very.

Q. Are you acquainted with the nature of the ports into which those vessels go with their cargoes from Cardiff principally.

A. I am not acquainted with the harbours in the South of Ireland. I know many ports where coal is carried from Cardiff.

Q. Do those ships mostly take the coal into tidal harbours ?

A. Generally.

Q. Would a tidal harbour at the Ely, be more or less convenient than Lord Bute's Docks, for the loading of coal for those purposes ?

A. For the smaller class of vessels the Ely I believe would be preferred in the coal trade. I believe it is generally understood so.

Q. Do you know whether the depth of water at the Ely, is more or less than at the entrance of the Bute Docks ?

A. It is nearly the same. It is rather deeper at the Ely. It is within three or four feet of the same depth.

Q. BY THE COMMITTEE.—The Ely you think is three or four feet deeper ?

A. I think it is three or four feet deeper than the entrance to Lord Bute's Docks.

Q. BY MR. JAMES.—You said it would be more convenient for small vessels,—is the trade in coals in that neighbourhood carried on principally in small or large vessels ?

A. I should say small vessels. I mean vessels under one hundred and fifty tons.

Q. Is that the same class of vessels, for which you said you thought a tidal harbour would be more convenient ?

A. Yes.

Q. On the Ely would a ship of that kind come in, and load, and go out, in a tide ?

A. I think it might be done.

Q. Would that be practicable in a harbour like Lord Bute's ?

A. No. I do not think it would.

After this language had been discharged, the Committee adjourned till the 6th of May. In the interim thus accidentally given, the Managers, in order to be unerring in their praises of the Ely, bethought themselves of getting the opinions of some men who had actually been afloat ; as otherwise it would be barely decent, to the Subscribers, to vaunt of a port on the *ipse dixit* of those to whom salt water was a rarity. So a whole chaise-load was brought from Newport, on the 21st of April ; and the result of their examinations as to proceedings on that, and the following day, merely showed that the principal questions had been begged of them. The first of these witnesses was—

MR. WATKINS RICHARDS, the Harbour-master of Newport, and once a merchant-trader. He deposed that he had taken his vessel into the Ely, and that "two hundred sail might lie there in perfect security ;" and it was a fact within his knowledge, that vessels "did prefer to be in the Ely rather than continue in Penarth Roads." He had

seen "very large fleets there;" but for what purpose was not shewn. He also stated, that vessels could enter, load, and depart, in one tide; and that the same could not be done in the Bute Docks, whatever conveniences might be erected. He then affirmed, though he had "seen no notice of it," that the Bute Dock Gates were opened when there were fifteen feet water on the sill; and that, to announce the fact, a blue flag was hoisted as a signal; and he was "certain" that no flag was up at eleven feet water; that till these fifteen feet had flowed up, the Cut was not deep enough to admit of vessels drawing ten feet; and that, therefore, the gates must be closed so soon afterwards in neaps, that there is no possibility of their getting out the same tide.

MR. THOMAS TOWELLS, a master-mariner, then talked much in the same tone respecting the blue flag, with its fifteen feet of water; and he broached the subject of towing vessels out of the Ely by a "horse power"—which same "power" could not be used along the mud Cut to the Bute Docks. Here were strong symptoms of "cramming,"—for a seaman would hardly have dreamt of the "horse power;" and still less of what followed,—that "he would prefer taking the ground in the Ely to floating in the Bute Docks."

MR. JOHN CLEMENTS, a merchant of Newport, was another of the Inspectors who rushed to the Ely on the 21st of April, to enlighten the Committee. He considered it to be the most convenient port between the Usk and Milford Haven;—that "from two to three hundred vessels might *lay* there;" and he deposed that "he used to go into the Ely river, in preference to lying under Penarth Head." He also stated, that he had taken the ground in the river "many times, sometimes at the side, and sometimes in the middle, according to the number of vessels there." He joined in the refrain about entering, discharging ballast, loading, and departing, in the same tide from the Ely; which could not, he asserted, be done in a dock: and in a full *cacoethes parlandi*, he informed the Committee on a point upon which he had not been examined—that despite his yearning for the Cogan Pil, he had sold all his shares in the railway concern, being satisfied, he declared, "that it was a bad thing, and the sooner he got out of it the better."

MR. JOHN EVANS, a pilot, but originally a stone-quarry man. As in duty bound, he chaunted the chorus that two hundred sail might lie in the Ely; and that there were, of

his own knowledge, fifteen feet water at the Bute Dock Sill, when the blue flag was hoisted, and only ten in the Cut. He further deposed, that there is "turning room" in the Ely, but not in the Cut; and that, in the Ely, a vessel would require no pilot; but he was not aware that she could go into the Bute Docks without one. He could see no difficulty in taking ships of three hundred tons, and upwards, up the Ely.

MR. H. T. PARFITT, late master of the Lady Charlotte steam-packet, a service which he had recently, and somewhat suddenly left. He extolled the Ely as far preferable to the Bute Docks; observing, that it only wanted a track-road for the "horse power" in East winds; and he "fancied" that vessels could enter the Ely, load, and go out again "in the same tide," which it would be impossible to do in Lord Bute's Dock. He himself had run in there for shelter, and taken the ground many times.

I was, I must own, somewhat surprised at this being the sum total of the nautical testimony, upon a question which had been so rifely bruited abroad, as actually to become a chimera. It had struck me, that I should hear some authority for the assumptions thus adopted, to which I could listen with respect; for one would hardly suppose, that men would compass the plunging so largely into heavy expenditure of other people's money, without first obtaining accurate information on the subject. But in the present question, it seems to have been the rule to plot a thing first, and to study its bearings afterwards; so the seamen having retired, the Counsel next called—

MR. JAMES POOLE, JUN., coal-merchant, of Bristol, whose evidence might in strictness have been waived, he being the holder of sixty shares in the Taff Vale Railway; and being also a Director. Mr. Sergeant Merewether, however, made no objection; and thus proceeded the examination by Mr. James :—

Q. Have you examined the river Ely, with reference to the facility it affords for the coal trade?

A. I have.

Q. You had a double interest in examining it, as a coal-merchant, and as a shareholder?

A. I had.

Q. Have you looked at Lord Bute's Docks?

A. I have.

Q. Now, in your opinion, which would afford the greater facility for the coal-trade, the Ely or the Docks?

A. Decidedly the Ely.

Q. I do not know, whether you know anything of the dues in the Dock?

A. I have seen them, but I do not recollect much about them. I have seen the scale of dues that is printed.

Q. Do you consider it of importance, in your trade as a coal-shipper, that vessels should be able to depart with despatch?

A. Certainly; it is the principal point in our trade, the saving of time and expense.

Q. Do you consider the despatch on a tide-river of more importance than the conveniences of a dock?

A. Certainly, for the class of vessels that are generally used in the coal-trade.

Q. I am not speaking of large vessels, but of the vessels used in the coasting trade. You consider despatch of more importance than the convenience of the Bute Dock?

A. Decidedly.

Q. For that purpose then, which would afford the greater facilities in point of despatch, the Ely or the Bute Dock?

A. The Ely, certainly.

Q. Pilots, and some others, who have been examined here, have stated that, with unfavorable winds, it would require steam to take them up to the Bute Docks?

A. There is no question about that.

Q. Have you made any calculation, as to what would be the extra expense of requiring steam for that purpose?

A. I have made no calculations; but from my general knowledge of the charge of steam-tugs, I should think it about three-pence per ton.*

Q. Steamers would require that, for taking you up to the Bute Docks?

A. Yes, they would.

Q. I do not know whether you have been up the Ely often, or whether you only went up, and examined it specially?

A. I went ten days ago, for the first time, and very carefully examined it for some time.

To this hypothetical evidence, it will be quite needless to add a word of remark, nor even quote the tendency of the cross-examination; because the testimony thus elicited was that of a merchant, not of a seaman;—in fact, of a gentleman who, however intelligent in business, was

* This would make a thriving trade for steam-tugs, in such a clear channel; and is much more than has hitherto been paid. There has, however, been an opposition between the boats; but I rather expect, in the end, ships will be towed both in and out, for less money than is here stated for taking them "up."

unable to perceive the natural difficulties of the question. As to the latter portion of the interrogatories, I am at a loss to conceive, how Mr. James can have been persuaded to put them. But as the witness, and the one who followed, largely extolled the capacities of the Ely as a loading place, I am bound to adduce their views on the subject. Mr. Poole having retired, the Counsel then called up—

THOMAS POWELL, ESQ., a coal-owner, and merchant, at Newport and Cardiff. Mr. Sergeant Merewether also waived the clear objection there was to this gentleman's testimony, inasmuch as he is a shareholder in the Railway, to the extent of nearly £20,000; and is likewise one of the Directors. After giving opinions on the *El Dorado*, quite in accordance with those of Mr. Poole, he was thus questioned by Mr. James, on matters, by the way, which had never taken place—

Q. How much more freight, do you imagine, would be required from a vessel of sixty to eighty tons?

A. I do not exactly know how much more freight. They would prefer going up the Ely. The expense would be rather heavier in the Bute Docks than in the Ely.

Q. And the delay would be greater?

A. Yes, the delay would be greater.

Q. You have not formed any sort of estimate, as to what the expense would be to the vessel?

A. I think in the Ely the expense would be very trifling. You could track out with a horse; and you might make a very convenient towing path, to track vessels out with horses. I think you would make a towing path with ballast coming in with the ships, and you might lay it down on a level for the trams to run on. I think you might make a towing path for less than £100.

* * * * *

Q. BY MR. SERGEANT MEREWETHER.—I think I understood you to say, Mr. Powell, that you have never used the Ely. In point of fact, that you have never shipped any coals there?

A. There is no convenience there. Certainly not.

Q. Your attention has been drawn to it. You say that you have seen the river?

A. I have

Q. And have you, yourself, had any soundings taken, or any thing of the kind?

A. I have had no soundings; but I am perfectly satisfied as to the depth of the water, within a very few feet.

Q. You have observed it ;—but I understand from you, that you have not taken any practical soundings ?

A. As to actual soundings, I know nothing, but from the evidence you have heard to-day. But I can form an opinion, within a very little, what depth of water there is, myself. I said that it was about thirty-seven feet, and the men who had been there told me, that there was at high-water spring tide thirty-seven feet of water.

Q. You seem to think that you can make a tracking-way, and can track out of the Ely with horses ?

A. With one horse.

Q. That is, when there is a foul wind for getting out of the Ely ?

A. When there is a head wind in the Ely, we can track out with very great facility.

Such are the main points of evidence in favour of the Cogan Pil scheme ; a singular part of which is, the very extraordinary and palpable error which the witnesses fell into, with respect to the depth of water when the blue flag was hoisted. (*See Appendix, p. 6, § 13.*) It was well known to all concerned, save those witnesses, that the blue flag hoisted denotes ten feet water at the Dock sill ; and the white flag up, fifteen. (*See Appendix, loc. cit.*) But they chose to assume that the blue flag denoted fifteen feet water ; and they then concluded in the glaring absurdity—though it was evidently intended for a heavy shot between wind and water—that when there was a depth of fifteen feet at the gates, there were only ten feet at the entrance of the Cut. The discussion dwelt on the virtues of the Ely as a port ; but not one of the witnesses said a word about the contrariety of the tides, or on the names and positions of the shoals, spits, or fords, which impede the navigation of the river. All was “rose-coloured,” although none of them ventured so far, on being cross-examined, as to assert that they had ever actually taken ships there to be loaded or unloaded ; or that they had used the Bute Docks commercially. In point of fact, except for a few stone-boats, the Ely has not yet been used for such purpose, although described as so admirable a harbour, and so excellent a refuge ; and notwithstanding that there are no town-dues to pay, as on the banks of the Taff. Thus the Taff having been used for traffic from the most ancient times, and the Ely *not at all*, shews that the one is a harbour sanctioned by experiment, and the other a vision suggested by speculation. But perhaps I am anticipating the proofs elicited by the opposite examinations, from the mass of which the following is extracted :

though not a word more than is necessary to the material question is here taken out; and even much of that is dispensed with as monotonous iteration. All the Marquis's points having been ably replied to by Mr. Harrison, Queen's Counsel, he opened the case of the opposers of the Bill, by calling up—

WILLIAM HENRY SMYTH, a Captain in the Royal Navy, employed for several years, since the peace of 1815, in surveying coasts and harbours for Government. Having deposed that he accompanied Lord Bute to Cardiff, about seven years before the present period—he was asked—

Q. By **MR. SERGEANT MEREWETHER**.—Did you look at the state of the harbour of Cardiff, with the view of considering whether improvements might be made there?

A. I did.

Q. And I believe you gave your best advice, and best assistance, to Lord Bute on the subject?

A. I certainly spoke very decidedly on his Lordship's questions to me, because I considered, that he was going to incur a very great expense.

Q. The making of a harbour at Cardiff, would necessarily involve a large expense would it not?

A. From the nature of the plans which his Lordship put before me, I saw it would be a very great expense.

Q. Did you learn at the time, Captain Smyth, that his Lordship had land at Cogan Pil as well as at Cardiff?

A. I did.

Q. Did you, at that time, consider the relative advantages of Cogan Pil and Cardiff?

A. I did.

Q. As a portion of the meditated Docks?

A. Yes.

Q. Did you examine them both with that view?

A. I did.

Q. To which did you, after the examination you made, give the preference?

A. To the present Bute Docks, certainly.

Q. In consequence of the advice you gave, and this recommendation, have the Bute Docks since been made?

A. His Lordship seemed to place some weight on what I told him. I pointed out the difficulty in the Ely as nearly insuperable; and that the other place generally, for the commerce of the country, and entering and departing from the Bristol Channel, was highly preferable.

Q. And since that, the Docks have been made at Cardiff?

A. They have.

Q. Were they opened in October ?

A. They were provisionally opened in October last.

Q. Have they since been in use, as far as the state of the works will allow ?

A. Constantly.

Q. Have you therefore had an opportunity of seeing particularly how they answer ?

A. I have.

Q. Now, having seen them since executed, have you discovered anything which induces you in any respect to alter your opinion, as to the comparative merits of the two places ?

A. Not in the slightest degree.

Q. Have you had any of your anticipations confirmed, with respect of the advantage of the site which was adopted ?

A. All of them.

Q. Will you just state what, in your judgment, is the advantage of the Bute Docks, and the advantages of the Cogan Pil.

A. My reason for preferring what I did, was first of all taking a view of the course of the Severn, and consequently of the commerce ; and I found that laden vessels could always go out with leading winds from the one, while vessels wanting to load could come with a prevalent wind in the Channel ; neither of which they could do in the Ely.

Q. The trade of Cardiff has much increased has it not ?

A. It is on the increase.

Q. And you have seen the manner in which vessels come to that part of the coast ?

A. I have been down daily. I have been residing there for near twelve months.

Q. Do the practical observations you have made, confirm the opinion you have just given, with respect to the advantages of the Bute Docks ?

A. Decidedly so.

Q. Now, so far as the Docks have been completed to the present moment, in your judgment, will those Docks be sufficient for the trade which will come down, when this new railway shall be completed to Cardiff, and be ready for shipment ?

A. It will certainly be more than equal to the trade, when it shall be five times what it is at present.

Q. I believe the works consist of Docks, in which vessels lie alongside the quays, and are loaded and unloaded ?

A. They do.

Q. With sluice gates, of course, into them ?

A. Yes.

Q. And is there a channel which leads up to the Dock Gates ?

A. There is an outlet basin to this, of which the gates are opened to admit the tide.

Q. And there is also a reservoir of water ?

A. There is.

Q. Will you just mention the extent of that ?

A. It is fifteen acres in extent, and five feet deep. It is calculated to contain one hundred thousand tons of water.

Q. What number of vessels is the dock calculated to contain ?

A. According to the usual computation of twenty to the acre, it would take three hundred and sixty. The Bute float is eighteen acres in extent.

Q. That is the inner-basin I presume ?

A. Yes.

Q. For what purpose is the outer-basin used ?

A. To admit all the vessels that come in by a tide ; and those that are ready to go out.

Q. That is the tidal part of the Dock ?

A. Yes, it is.

Q. In the other, the vessels are always kept afloat, I presume ?

A. In the inner basin they are afloat.

Q. And the tidal harbour on the outside is used for the purpose of the vessels coming in and going out ?

A. Yes, it is.

Q. Besides that—the outer harbour—there is, I understand, a Cut through the mud up to the Dock Gates ?

A. There is.

Q. Will you have the goodness to state the dimensions of that ?

A. It is one thousand two hundred and fifty yards long, forty-five feet at the bottom, and in most places one hundred and ten at the top ?

Q. I presume, the measure at the bottom you have only given for the purpose of describing what is the real area of the Cut ?

A. It was in answer to the question—what are the dimensions of the Cut ? otherwise we have nothing to do with the bottom.

Q. What the width is at the bottom, is immaterial to the use of the Cut ?

A. Quite.

Q. Of course the question is, what is its width at the point where vessels can first begin to float in and to use it ?

A. That is it, I should say.

Q. Can you tell me what is the width of the point where vessels can first begin to float in and to use it ?

A. Between ninety and one hundred feet.

Q. And it increases upwards, as the tides rise, to the breadth you have mentioned ?

A. At high water there is a line of warping buoys on each side, which are two hundred feet apart. This leads up to two well constructed Dolphins ; and from thence the Cut opens into a large basin three hundred and forty-five feet wide.

Q. Before you enter the outer basin ?

A. Yes.

Q. In front of the Dock Gates?

A. In front of the Dock Gates, three hundred and forty-five feet.

Q. Will you have the goodness just to tell us the bearing of the Cut?

A. The bearing is very near the meridian. It runs east of the magnetic north?

Q. Very nearly north and south, speaking of the true north?

A. Yes.

Q. Will you inform the Committee, whether, in your judgment, a Cut of those dimensions, and that bearing, is calculated to admit the tide into the Dock, in those winds in which it is most likely to be sought for by vessels?

A. It certainly is.

Q. Practically speaking, have you seen that it is so?

A. Yes. We have already let in twelve vessels in a tide, and I am quite certain, from the best observations I have been able to make, we could let in forty. But the trade of the place is not equal to that yet.

Q. And according to your judgment, will that be sufficient for the increased trade to which you before alluded, when you could get all the ships into the Docks. If you could get in forty a tide, would that be sufficient to answer the requisites of the vessels which you say the Dock would contain?

A. It would be more than sufficient.

Q. Have you any idea then of any difficulty in using this Dock in consequence of the dimensions or size of the Cut?

A. There has never been one moment's deliberation about it. All the vessels wishing to enter, come in without the slightest delay of any kind.

Q. And as I understand you, you think forty in a tide might go in?

A. I think I may reasonably state, that the twelve which came in, did so only by accident. It was in consequence of the long prevalence of easterly winds that vessels were kept out of the Severn, and when the westerly winds came, they all entered.

Q. With respect to the wind. You say the Channel is North and South. Now South would be a direct head-wind along it, and prevent any vessels from coming out?

A. Yes, if it was bad weather.

Q. Under these circumstances, would a vessel go to sea at all, and try to go down the Bristol Channel?

A. No, I should think not.

Q. In your judgment, will the Cut afford an opportunity of getting to sea at all times, particularly with the assistance of steam-tugs, when vessels are likely to go to sea?

A. In every wind that is favourable down the Channel.

Q. I have asked you with reference to the dimensions of the Cut, has its size increased since it was made?

A. It has increased at the mouth.

Q. To what do you attribute this increase at the mouth?

A. To the slips. The sides are cut at a slope purposely to induce slips; and those slips make a more natural slope.

Q. Do you constantly wash out the channel?

A. The scouring power is not in full force yet; but it is hoped it will clear away all deposits. The Cut is not quite finished.

Q. Your scouring power will consist of letting out the water from the reservoir which you have mentioned?

A. It will.

Q. Then have you calculated whether that scouring power will be sufficient to answer the purpose of keeping this channel clear and open?

A. I have every reason to suppose, that when the mud is cut away, the scouring will wash out every deposit.

Q. Have you found, practically speaking, that it has already not only washed out the deposit, but it has increased the width of the Cut?

A. Yes, it has.

Some discussion then followed respecting the Ely, where it trends between that part of Penarth Beach, named the Black Beach, and the shoal called Cefn-y-Wrâch; when, after two or three questions to me from the Committee, Mr. Sergeant Merewether thus continued:—

Q. Is the passage of the Ely there wide, or is it narrow?

A. It is very narrow indeed.

Q. Will a ship of size go up that track?

A. I should certainly not like to try it.

Q. It is very narrow, and, in your judgment, would not do for a ship of any size?

A. No.

Q. What would you say is the largest sized ship that goes there?

A. I have only seen boats there. I would not advise anything in the shape of a ship to go there at all.

Q. One hundred tons?

A. I have seen stone-vessels there of twenty or thirty tons.

Q. I believe that you do not think that it would be prudent for a vessel to go there of any size?

A. With the view I have at present got of it, I would not send any vessel there at all.

Q. Now, proceeding a little further up the Ely, and in front of Penarth Point, there is another shoal called the Patch?

A. There is.

Q. That is also between the Taff and the Ely ?

A. It is.

Q. And above that, is the Lower Ford, is it not ?

A. Yes, it is.

Q. Somewhere higher above, there is the Swashway and the Upper Ford ?

A. There is.

Q. And these all lie between the course of the river Taff, and that of the Ely ?

A. They do.

Q. The channel which I have spoken of, leading up to the Bute Docks, commences at a point called the Eastern Hollows ?

A. It does.

Q. I suppose that the place which is spoken of in the river Ely (*Cogan Pil*) where vessels would lie, is higher up the river than anything I have asked you about here ?

A. It is.

Q. Do you know the nature of the shore near Cogan Pil.

A. Yes, I do.

Q. Is that shore flat, so that vessels could easily take the ground, or is it steep ?

A. I do not think that vessels would like to take the ground there, unless it was first scarped, or tabled.

Q. I am, of course, Captain Smyth, confining myself to the inquiry as to that part of the river between the Pil and the Inn at Penarth Head ?

A. Yes.

Q. In your judgment, the shore is there so steep that vessels would not lie there unless it was tabled ?

A. No. If it was not tabled in very deep water, which would carry the staiths a long way out, vessels would run the risk of being neaped there.

Q. Will you just explain what you mean by "being neaped there."

A. They would have to wait till the spring tides came in to enable them to float again.

.

Q. It has been stated that vessels have gone in and taken the ground, in the Ely. In your judgment, would that be near the shore, or upon the Penarth Flats, which lie off there ?

A. I have never seen a vessel in the Ely myself, except those small stone-boats. On the Penarth Flats they take the ground frequently.

Q. And there they would be safe ?

A. They are safe.

Q. The chance of their heeling over, and accidents happening to them, is near the shore between Cogan Pil and the Farm House ?

A. In point of fact, I should say no vessel ought to take the ground in the Ely ?

Q. Not so as to approach the shore ?

A. No.

Q. They must go, as you say, on the Penarth Flats ?

A. Yes they must.

Q. It is the mud that lies between the Taff and the Ely river ?

A. It is.

Q. You think they could not lie, with safety, close to the shore between Cogan Pil and the Farm House ?

A. No, it would be very inadvisable.

Q. Now it is proposed to carry staiths out there, for the purpose of coal being loaded from them ; do you consider that the vessels could come along by the side of the staiths, and load there with safety ?

A. The principal difficulty that I see in that case, is the making of the staiths themselves. I have heard the evidence given, but certainly my own opinion is, that the Engineers would find the fixing of staiths there, a more difficult job than they contemplate ; but even if they could accomplish it, it would become a question how to moor ships there.

Q. There will, first of all, be a difficulty in making the staiths, and when they are made, there will be a difficulty in vessels lying for the purpose of discharging or loading alongside of them ?

A. Certainly, in such a tide race.

Q. There is another expedient we have heard of, which I should like to know your opinion of. It has been suggested that a trackway might be formed, along from Cogan Pil down to the part where Penarth becomes rocky, and where it projects very near the farm house ?

A. Yes.

Q. Will you have the goodness to tell the Committee, in a nautical point of view, what would be the particular benefit of tracking the vessel just to that point, and there leaving her ?

A. It would be almost caricaturing the thing. It is not taking the vessel to sea.

Q. Supposing there was a head-wind blowing into the Ely, so that it was necessary to track at all, if you tow her as far as the point I have mentioned, would she be a bit better able to get out to sea ?

A. Not in the slightest degree. They would have to cast the poor horse off, after all that labour, and get a steam-tug, or something else, to carry her out.

Q. Would they not be obliged to weather Penarth Point ?

A. They would.

Q. And could they do that without tacking across as far as the Bute Harbour itself?

A. I should certainly say that I do not consider the tracking any help at all. They would start better from Cogan Pil by going across at high water.*

Q. It would only bring them nearer to the head which they must weather?

A. Yes. And it would expose them to the danger of taking the beach, for I suppose they would go out at ebb tide.

Q. Supposing that there was a high wind blowing up the Ely, so that they were obliged to tack in that sort of way, how much would that wind affect the entrance into the Bute Dock?

A. It would be fair for it.

Q. Will you just tell me, what are the most prevalent winds in that part of the country?

A. I should say, that here the North Westerly and South Westerly winds are most prevalent.

A. How would those do for the Bute Harbour?

A. All vessels wanting to go down the Severn with cargoes, would certainly start with a fresh breeze from northward, and be off with flowing sheets down the Channel. But they would be then shut in, in the Ely.

Q. They could start from the Bute Docks, at a time when they would be shut in at the Ely?

A. Yes.

Q. I suppose there are occasions also, in which the wind might also be more favourable from the Ely, than it would be from the Bute Docks?

A. That is, for small vessels going to Gloucester; but certainly not for ships going out with cargoes.

Q. For small vessels going up the Severn?

A. A fair wind out of the Ely would lead them to Bristol.

Q. But for going to sea, the fair wind out of the Bute Harbour would carry them quite out?

A. The fair wind from Bute Harbour, which would carry ships by Lundy Island with flowing sheets, would shut them up in the Ely.

Q. Will you state to the Committee the number of points of the compass with which the Bute Port can be used—how many points of the compass?

A. It can be entered I should say, with winds from E.S.E. round to W.N.W.

Q. Will you give me the same sort of answer with respect to the Ely; in what portions of the compass could the Ely river be used?

A. The Ely river, (looking to the object of ships mooring as I

* This only alludes to the small craft talked of, the one-horse vessels,—for the mud spit would be an obstacle to larger ones.

do, which is the entering and getting out of the Severn,) there are fifteen points of wind, which, if they blew with any strength, would shut them in, all of which would be fair down the Channel.

* * * * *

Q. And you know the flow of the tide well do you, in the British Channel?

A. I have not attended to it much, because I consider that the tides have been made a question in this case, though they are secondary to the main point. The Bute Docks can be used at half-tide, so you have only to know when it is flowing, and when its ebbing.

Q. The Bute Harbour can be used at half tides, can it?

A. Yes, it can.

* * * * *

Q. You do not mean vessels can go over the banks?

A. No, between them; only over the lower end to get into the Cut.

Q. Below the Cut?

A. It is to get in. Some of them, instead of entering at the Eastern Hollows exactly, take advantage of the rise of the water to sail in between the first and second buoys, perhaps.

Q. Within where the buoys are laid?

A. Yes.

Q. And towards the Eastern Hollows, or thereabouts, at that state of the tide, they may go between the buoys, though not decidedly in the Cut?

A. They actually do it. The whole bank is lower there. In fact, many of the trading vessels do not come into the Cut, till they are half way up to the docks.

Q. Many of the trading vessels do not go into the Cut, till they are half way between the Eastern Hollows and the Docks?

A. Just so.

Q. In your judgment, will the tides impede the ingress or egress into the Docks?

A. The tides in the Cut.

Q. Yes.

A. No; the falling tide will help them to go out.

Q. Will they materially interfere with the use of the Dock?

A. Not at all.

Q. It has been suggested, that the tide running across the Cut would have the effect?

A. Not in the slightest degree. In fact, vessels of five hundred tons may come in between the banks; and therefore it would be impossible for any cross current to affect them.

Q. Have you seen steam-tugs applied for the purpose of bringing vessels in ?

A. I have.

Q. Do they answer ?

A. Quite. I have seen them towing in two at a time.

Q. Now, since the Bute Dock has been opened, have you had an instance of any accident in the Dock, of vessels breaking their hawsers, or getting away from their moorings, or any thing of that kind ?

A. Not one.

Q. Do you remember a ship of a thousand tons being there,—the *Manlius* ?

A. I do. She was registered at seven hundred tons, but delivered a cargo of more than a thousand tons of timber.

Q. Was it foul weather, or how, when she was there ?

A. She came in on the day of the opening, having never cast an anchor from Quebec till she got into the Docks. She hove down while she was there, and was lying on her side during the strong N.E. gale of November last.

Q. And did she remain there in safety ?

A. Perfectly so.

* * * * *

Q. Do you remember the *Ocean*—of four hundred and thirty-three tons register ?

A. I do.

Q. Could she have gone into the old sea-lock ?

A. No, she was a large ship.

Q. Supposing she could not have gone in there, where must she have discharged and loaded ?

A. In Penarth Roads.

Q. By small craft ?

A. Yes, by lighters.

Q. What time did she arrive in the Docks ?

A. Sometime in January. It was in January.

Q. Was she in ballast ?

A. She was in ballast.

Q. Do you know how many tons ?

A. About two hundred tons.

Q. How many tons of iron did she take in ?

A. Six hundred.

Q. In what time did she do all this ?

A. She did this in a fortnight.

Q. And how long would she have been detained, if they had been obliged to follow the old course ?

A. She would have done nothing during the whole time, as it was always blowing in such a way, that no lighter could have gone to her.

Q. In point of fact then,—she sailed out of the Bute Docks before she could have discharged her ballast, if she had not been able to get in there?

A. She sailed out of the Bute Docks, before she could have done anything in the roads.

The examination then went to prove the loading of a Hamburg ship, of six hundred and fifty-one tons register; and the contemporaneous arrival of twelve vessels in the basin, already alluded to, when Mr. Sergeant Merewether thus proceeded—

Q. You have often spoken of these vessels which cleared out with coal for Hayle, in Cornwall. Could those vessels have been laden and cleared out so quickly in the Ely?

A. I have mentioned my conviction, that a vessel would have such difficulty in getting out of the Ely, that I cannot say in what time she would do it.

Q. In your judgment, knowing they were one clear day in the Bute Docks, could they in that time have gone into the Ely, have taken a cargo, and got out again, as quickly as they did from the Bute Docks?

A. Most decidedly not.

The evidence then went to show the arrival and departure of the Swan, and the Maria, two craft laden with stone, which came in, delivered their cargoes, and went out again *THE SAME TIDE*. After this Mr. Talbot thus questioned the witness—

Q. With reference to the position of the Bute Docks, do the Penarth Roads, in fact, form a sort of outer-harbour for those Docks?

A. I consider them as such.

Q. Just explain in what way—how that is, from the position of the lands?

A. The entrances of the Taff and the Ely, both join an anchorage called Penarth Roads, which is between the Cardiff grounds and the mud-banks.

Q. Have you stated the rate at which the tide runs at the entrance of the Ely?

A. No, I have not.

Q. Just have the goodness to state that?

A. I consider it to run four or five knots an hour.

Q. Do you anticipate that the rate of tide there, would operate prejudicially in certain states of the wind, on vessels coming in or going out?

A. I do.

Q. What would be the prejudice which would be derived from that?

A. I consider the extreme irregularity of the tide to be such, running as it does, right across the fair-way.

Q. You mean the main passage up to the anchorage?

A. Across the course of the stream.

Mr. Sergeant Wrangham now took up the cudgels, hoping in a manner not over agreeable, even to some members of the Committee, to prop up a lost cause, by brow-beating. But he, having himself been victimized by the "Crammers," was evidently uneasy at the result of his own imprudent opening address. After the usual coquetting of a commencement, about the object of my going to Wales with Lord Bute—the tariff, or table of dues, for the new harbour—the Hon. R. Clive's land—and Mr. Telford's supposed Report—with which I will not fatigue the reader, as it was mostly matter of parlance,—after all this, he let fly the "long tom" at the Ely. Here, also, I shall be as brief as possible in my quotations:—

Q. You have been living at Cardiff for some time, Captain Smyth. Have you examined the Ely river with great care?

A. I have been over to it several times. But from the view I took of it several years ago, there is nothing to alter my opinion. It is as easy as asking whether this room is square. There are the points, and I do not think they can be got over.

Q. I rather desire to know, whether you have been frequently to examine the river Ely?

A. Yes. I have.

Q. Have you ascertained the depth of water for instance?

A. No; neither do I think it bears very largely on the question.

Q. That was probably your reason for not ascertaining it?

A. I knew that the Admiralty had, at a very great expense, sent down, and had already done it.

Q. The Admiralty had sent down, and at a very great expense, ascertained the depth of water in the Ely?

A. Yes; they surveyed all parts there. In the view I was taking, which was on the commerce of the place, I did not want exact depth of water. I saw a rise and fall of many feet. I also saw that the flood-tide would always be met by the stream of the river, and make a head at high-water. But this did not enter into the reason I gave Lord Bute, why one place was better than another.

* * * * *

Q. Have you ever taken any soundings at the neaps ?

A. No ; we know very well what the register is. The register is kept daily at the Bute Docks ; and I assume, that after half flood, the tides are nearly the same on the two rivers.

Q. You assume that ?

A. That is quite enough for all nautical purposes.

Q. You assume that, without having tested it by experiment ?

A. Yes.

Q. Then, if soundings should actually have been made, shewing a difference of six feet, would your assumption still remain ?

A. Yes, it would, unless I knew how those soundings were taken, and when ; for if it is only the flood meeting the stream of the river at high-water, there is merely a head of water. This is the principal cause, in my opinion, for the difference of level in the tides at high-water.* The difference with the Taff is, that it is nearly drained off by the Bute Docks and the Glamorgan Canal. The other stream (*the Ely*) is not yet obstructed.

Q. Before, I understood you to say, that you do not suppose the channel of the river to be any lower in the Ely, but that the water rises higher only ?

A. I think the water rises higher. There are ponds on the banks of the Ely, and there are pools in the bed of the river. But I should say, that if this river were subjected to the same thing as the Taff is, that the rise and fall of the tide would take identically the same level.

Q. That is your opinion, not tested by experience ?

A. Not tested. But I have been, perhaps, some twenty or thirty years learning how to form that opinion.

More "last words" about leading winds, and vessels, and steam-tugs, and loading coal, and shingle, and mud, and such like, were then played off, to bring in the Ely with a better effect. And thus he pulled at the rope twisted by his "ear-wiggers :"—

Q. Now, did I understand you to say, that no vessel beyond thirty tons could go into the Ely, in your judgment ?

A. No. I am only speaking of those I have seen.

Q. You have never seen one above that ?

A. No ; I have not.

Q. You have not been in the habit of going very frequently to the Ely ?

A. I have seen it daily.

Q. And you have never seen a vessel of above thirty tons there ?

* When the currents of fluid meet from opposite directions, there is first a swelling and rising up at the point of rencounter ; then follows a revulsion and counter-current of each, in a ratio of their specific gravity. So that before half-tide the equilibrium is again restored.

A. No. I do not think I have.

Q. Will you undertake to say, to the best of your belief, since the time when you have been at Cardiff, that you never saw a vessel there above thirty tons?

A. I will not speak to a ton or two, but that is the class of vessels I have seen there. I have seen no others whatever.

Q. The Ely you say goes down near Penarth. (*Holding a plan.*) What is here marked at the mouth?

A. That is the outlet of the river.

Q. Do you mean to say, that you have never seen above that point, a vessel of more than thirty tons?

A. I have seen them on Penarth Flats. I have never seen them in the Ely.

Q. Do you mean to say that no vessel, according to your knowledge, of above thirty tons has been up the Ely?

A. At Penarth Flats I have seen dozens of vessels, but not in the river Ely.

Q. Would not vessels reach Penarth Flats either up the Ely, or over the Ely?

A. At high water.

Q. Yes?

A. My answer to the question formally, was as to the ships I had seen lying in the Ely. Some ships may have passed over the Ely mouth at high-water to go to these flats. (*Pointing to the plan.*)

Q. Then you cannot tell the Committee what vessels have passed up the Ely. You speak only of those lying there. (*Pointing to the West Mud, or Penarth Flats.*)

A. My answer to the question is,—I most distinctly say, that I never yet saw a large vessel in the Ely.

Q. You have seen large vessels at Penarth Flats?

A. I have seen large vessels left on the mud at Penarth Flats. But how they got there I do not know.

Q. Do you mean to say that large vessels—up to two hundred tons for instance—lie constantly there (*pointing to the plan*) above Penarth Head, on the banks of the Ely?

A. I should, in no case, say that I ever saw a large vessel lying in the Ely at all; and its banks are not fit for so lying upon.

Q. Do you mean to represent to the Committee, that large vessels—when I say that, I will limit the word large by saying two hundred tons* at the least—are not in the habit of taking shelter, and lying above Penarth Head, on the bank there? (*Pointing to the plan.*)

A. No. I never saw it.

Q. Do you mean to say that it is not the case?

* At several stages of this discussion, the learned Sergeant and his party, seemed to take burthen and draught as synonymous terms; but tonnage, without keeping build as a condition, is a very imperfect guide to showing what water a vessel draws.

A. I do. I have seen Penarth Flats nearly covered, but I never saw a square-rigged vessel in the Ely.

Q. You never saw a vessel immediately above Penarth Head here, (*pointing to Cwtsh-y-Cwm on the plan*) at this side of the river Ely?

A. I never did.

Q. You do not believe such a thing exists?

A. I believe a vessel can, if there were any extraordinary reason for it, take shelter there; but I think no prudent man would ever attempt it.

Q. You think a vessel might take shelter there, of the size I have mentioned, two hundred tons?

A. If in that kind of necessity, you might get a vessel, by means of a camel, up the river. She would be safe enough there. But I never saw such a thing.

Q. I wish to have this particularly; and to give you full time to give your answer. (*Producing the plan.*) I am speaking here, above Penarth Head, at a spot called the Pilots' House, (*Cwtsh-y-Cwm*), and so along the bank of the river Ely; and I ask you, whether you mean to represent to this Committee, that LARGE VESSELS are not in the habit of coming there for shelter, and lying there?

A. They are not.

Q. Now, have you never known one of her Majesty's frigates go up, and lie there above Cogan Pil?

A. Decidedly not. I have heard of a sloop of war going into the Pil, on special service.

* * * * *

Some desultory random shot on Welsh Ports, closed the field day of May 13th, in which the learned Sergeant must have found, that he had been cruelly hoaxed about the Ely. As, however, it was pretty much the same to him, whether defeated or victorious, he took his station on the morrow, like a giant refreshed; hoping, perhaps, that stray answers to worrying questions, might impinge on the outworks of an argument otherwise unassailable. After flashing in the pan about gales of wind from the East, and the like, he imagined the case of a ship wanting to sail up the Mud-Cut, and passing another coming out. Though I told him, that the latter would have, as a matter of course, a falling tide with her in such wind, or she would not move. Then followed the drift of the discourse:—

Q. Supposing they did come in, would there be in such a case, the risk of one of the vessels touching the bank?

A. If they came in at high water, there would not.

Q. You say you would send the one out at ebb?

A. That would not be the time for the other to come in.

Q. We are talking of the time you selected to send the vessel out; and I am asking whether—if another vessel had to come in, and they were to pass one another in this Cut,—there would not be a risk of their touching on the bank?

A. I should say, it is a very improbable case altogether. Ships would not be coming in at the ebb tide at all.

Q. But if there was a vessel coming in, would there be a risk or not?

A. There might be; but I cannot imagine the case.

Q. BY THE COMMITTEE.—How long does the tide ebb there?

A. Six hours and a half, and flows five hours and a half.

Q. MR. SERGEANT WRANGHAM.—Do you mean, then, that this fresh easterly wind is an extreme case?

A. I mean that a vessel coming in with that fresh wind, and meeting another vessel going out, with the ebb tide, is a very extreme case.

Having taken nothing by this ill-concocted motion, the learned Sergeant then fired his ammunition away, to fish up something in favour of the Ely. As this river has formed so great a bone of contention, I must inflict more of it on my reader, although he may be as tired of the whole as were the Committee—who were condemned to hear it out—notwithstanding they well knew it to be unnecessary to the object of the Bill brought before them:—

Q. Now, you told my friend, that tracking a vessel down the river Ely to the mouth, would be of no use, because when she got there, she could not go to sea?

A. I think so. I do not see how they could tow the vessel out. I not only think so, but I would stake my professional reputation that they could not. I will stake all the knowledge it is supposed I may have on harbours, that they could not do it.

Q. They could not get to sea?

A. They could not get the vessel down there, (*pointing to the plan,*) and when she got into the Narrows, then all her difficulties would commence.

Q. I understand you to say, when she got to the mouth of the Ely, she would be in just the same difficulty, and could not get to sea?

A. I do say so.

Q. Would she not, in point of fact, when she had arrived at this point, (*holding out the plan,*) where you have placed the mouth of the Ely, be at sea?

A. No; she would not clear that point. I do not know what

kind of towing rope you would have for this horse,—for I have only heard of a single horse yet—you must have a pretty length of it?

Q. We are not at this moment discussing the question of the tracking, but supposing the vessel to be tracked down to the mouth of the Ely?

A. That is another improbable thing. It is impracticable.

A terribly tiresome discussion now ensued, as if it were a match against time; and all the points about the Ely—and Penarth Head—Cwtsh-y-Cwm—and the rising, falling, and reciprocation, of the tides—and winds which would carry vessels from the Ely to Newport with coals,—were severally and needlessly touched upon. This seemed to be a prelude to the great “mare’s nest” about the whispered damage done to the *Manlius*, (*see p. 30.*) or what could the following interrogatories mean?

Q. MR. SERGEANT WRANGHAM, turning over his minutes.—You say that in November last there was a very smart N.E. wind. “Have you had vessels at all prevented from coming in or going out” is the next question,—and your answer is “never.”

A. They do not refer to each other. I rather think if you look a little before that, you will find that I said, the *Manlius* was lying on her beam-ends in the Docks at the time.

Q. Now you say the *Manlius* came in November?

A. No. I said she was lying on her beam-ends in November. She came in the very day the Dock was opened.

Q. When did she come in?

A. She came in on the 9th of October.

Q. Into the Dock?

A. No—into the outer Basin.

Q. When did she come into the Dock?

A. She might have come in two or three days afterwards. I gave permission for her to come in at leisure.

Q. Was there not a considerable interval between her coming into the Basin, and her coming into the Dock?

A. Nothing more than getting rid of her deck-load.*

Q. How long did that take?

A. I do not know.

Q. You are speaking with an accuracy of recollection about these things of the *Manlius*. Cannot you tell us how long she was detained before she went into the Dock?

A. I do not know. My directions were, that she should get her deck-load off first.

* This deck-load was also retarded by her crew having been discharged the evening of her arrival. She had been aground in the St. Lawrence, and was slightly hogged.

Q. Why?

A. Because she drew too much water. The lock was not meant for a vessel of one thousand tons.

Q. Was it not, in point of fact, necessary to lighten her, to bring her into the Dock?

A. Unquestionably. And if I had known of her coming, she should not have entered the Dock at all.

Q. Was she not a timber-vessel?

A. She was a large timber-vessel from Quebec, and positively drew more water than the channel she was coming into. It was never by my wish that she came there at all.

Q. BY THE COMMITTEE.—Did they lighten her before she came there? If she drew more water than the channel through which she came, I want to know which way she got in?

A. The steam-tug dragged her through.

Q. Bodily?

A. Yes, bodily. The circumstance was, that there was an American ship, the Warsaw, lying in the roads, which the steamer was sent for. The other ship hove in sight, and some people interested in her, got hold of her. She nearly spoiled the whole day's proceedings, for she hung in the mud, and though the steamer dragged her off, she was as near as possible preventing our closing the tide-gates.

After this, I expected to be cross-examined about the boat laden with iron, which had been represented as being sunk by exposure to winds blowing over the Dock Copings, as I well knew the fanciful tale had travelled to London. (See p. 31) The inquiry, however, took another turn. Instead of *ships* finding unrivalled facility, security, and dispatch, in the Cogan Pil, as had been asserted, it was now intimated that mere *coasting-craft* only were to be considered; and from all I could gather, the Managers had determined to keep in the rearward of improvement, like duck-legged drummers following a regiment. However, on this point, I will merely extract an opinion, which if they search round all England, they will find it rather difficult to controvert:—

Q. MR. SERGEANT WRANGHAM.—Can you undertake to say, whether a tidal harbour is not an advantageous and convenient description of harbour, for those small coasting vessels to load in?

A. I should say, to the best of my knowledge, and the result of my inquiries, that they are not. When the trade has procured floating docks, the size of the vessels alters. The reason for having small vessels here is, because they have no port to put larger into.

Q. That would depend, not on a particular port, but upon the generality of ports to which the vessels go?

A. It is the case wherever the coal, or other trade, has grown.

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Q. BY MR. TALBOT.—Would you allow me to ask you, is it your opinion, that the size of the vessels trading to the port of Cardiff, will increase by reason of this Dock?

A. Unquestionably.

Q. And supposing the great proportion of the trade to have been carried on in small vessels, that would cease to be the case hereafter?

A. Not entirely. There might still be a great deal of coasting traffic.

Q. The foreign trade will increase?

A. Yes.

A very lengthy discussion followed this, which being as iterative as wearisome, I will spare the reader. But after answering all the questions of the Counsel, and the members of the Committee, as well as a long examination by Mr. BLAKEMORE, the following topic was started:—

Q. BY MR. HARRISON.—I wish to know whether you can give me, the total number of vessels coming in and going out of the Bute Docks, since the 9th of October, distinguishing those that have used steam, and those that have not?

A. Yes, I can. I have got a list here.

Q. BY MR. SERGEANT WRANGHAM.—What is that?

A. It is the dock-master's return to me.

Q. Is he here?

A. No, he is not here. But, however, I can reply to the question in round numbers. Of vessels coming in, there are at least half of them that have *sailed* out again; and the reason why so many entering take steam is, because they do not know the entrance.

Q. BY MR. HARRISON.—When the port is better known, the steam will cease to a certain extent?

A. Yes. They will never want it a second time in going out. There are full three quarters of them sail out. Here is the number. The total that came in between the 9th of October, and the 10th of May, was two hundred and twenty-two vessels, without the aid of steam; and with the aid of steam one hundred and nine. Those that went out in the same time, without the assistance of steam, were two hundred and forty-four; and with steam, sixty-five; leaving twenty-two in the Dock.

Q. BY MR. SERGEANT WRANGHAM.—I want to know, whether vessels did not always find their way into the Old Glamorganshire sea-lock pond, without any steam?

A. Yes.* But they hung about the banks in a most extraordinary way; and the pilotage has been wretchedly bad. They all had pilots.

Q. You say ships take steam, in the majority of cases, to come into the Bute Harbour, from ignorance of the channel?

A. The first time of their coming there.

Q. Pray do they not take a pilot too?

A. The generality of those that have tugs, do not take pilots.

Q. Do you mean, Sir, to represent, that vessels using the steam-power, either for the purpose of entering, or coming out of the Bute Docks, do not carry a pilot too?

A. Some do not.

Q. I ask whether the bulk of them do not?

A. No. I think they do not.

Q. You have been speaking positively of the fact,—is it not so,—that the majority of the vessels using steam-power, to get in or out of the Bute Docks, do take pilots in addition?

A. No. I do not think they do.

Q. But many do?

A. I know at present they do not. The thing that strikes all people is, that the Cardiff Pilots as a body, are not in favour of the New Port. They lose the pilotage and gains of the old tortuous channel.†

Q. I am not asking you what the opinions of the pilots are. I am asking you as to the fact, whether they take pilots or not?

A. I should say, there is a very large portion that do not.

Q. At what proportion do you put those who do not, and those who do?

A. The principal ones go in with steam.

Q. The principal, in point of number, that go in with steam, do not take a pilot?

A. No, they do not.

The learned Sergeant was, of course, driven to such suicidal cross-examinations, by those who ought to have taught him better. This was certainly a most sudden and unexpected blow to the Ely-fanciers. And in order to show how truly the evidence was given, it may be proper

* This assertion, however, demands great modification. From various indications, I rather expected that the learned Questioner was about to contrast the old tortuous channel with the new entrance; that is, to prefer a downright zig-zag to a straight line, for being towed along. In point of verity, there were no regular steam-tugs at the port of Cardiff before the Bute Docks opened; not because the want of them was unfelt, but because such as were hired occasionally from Bristol, made the extravagant charge of eight-pence per ton, in and out; or four-pence each way. Commerce, indeed, is but progressing in these parts.

† Having heard, that some of these persons had tempted vessels into the Glamorgan Canal, after being asked to conduct them to the Bute Docks, I directed that steam-tugs might tow them in without pilots; well-knowing that they were self-appointed, and therefore so irresponsible as to place the insurance in utter jeopardy. HINC ILLÆ LACHRYMÆ.

to submit a petition sent to me, by these very pilots, about a month afterwards :—

Cardiff, 11th July, 1840.

To Captain W. H. SMYTH, R.N.

SIR,

We, the undersigned Pilots, belonging to the Port of Cardiff, take the opportunity of Lord Bute's presence in Cardiff, to address you on the subject of the Pilotage, as affecting the New Harbour; and beg that you will lay our case before his Lordship, with a view to remedy the disadvantages under which we have been labouring, since the opening of his Lordship's New Wet Docks.

Our case may be summed up in a few words, as follows,—

By a regulation adhered to by the Dock-master of the Glamorganshire Canal, all vessels entering and departing from the Old Sea Lock, are obliged to have a Pilot on board, who understands the working of a ship, and is acquainted with the intricacies of the navigation; and the uniform charge for Pilotage, has always been two-pence per ton on the cargo. Since the opening of the New Docks, vessels have been, and are now, in the constant practise, of entering and departing from them, without employing any Pilot whatever; the reason of which is, the comparatively easy navigation of the strait entrance-channel from the Eastern Hollows to the Sea Gates, which the Captains of many vessels take upon themselves to navigate without the aid of an experienced Pilot. The consequence of this is, that the occupation of a Cardiff Pilot is now hardly worthy of being followed by an experienced hand, and our means of livelihood are reduced more than one-half.

As you are aware of the importance of vessels having a pilot on board, both as respects the safety of the vessels, and the safety of the Dock Gates, as well as the character of the Port, which would be seriously affected by any accident to ships making the entrance: we humbly suggest that some regulations be made and enforced by the Dock-master, to the effect, that no vessel should enter or depart without a Pilot, and some stated charge made on the tonnage, as pilotage dues.

We are quite willing to accept a reduced state of dues, as compared with the Old Port; in short, such a rate as may appear reasonable, after due consideration for the services performed, and which would afford us some remuneration for our labour, and secure to us some regular employment.

Trusting that you will take our case into your earliest consideration, and afford relief to ourselves and families, and thereby, we believe, also confer a real advantage on the security of the New Harbour.

We subscribe ourselves,

Your very humble Servants,

DAVID RICHARDS
JOHN RICHARDS
NICHOLAS BREWER
WILLIAM PHILLIPS
EVAN JENKINS
JOHN JENKINS
EDMUND MORGANS
JAMES JAMES

JOHN BOWEN
JOHN JENKINS
JAMES PARRY
WILLIAM ROSSER
EDWARD HARRIS
JOHN DAVIS
DAVID HOWELL
JOHN EVANS

As this is a subject of considerable import to Cardiff, in various points of view, a few words thereupon may be tolerated. It appears, that the jurisdiction of the Severn Sea has long been vested in the Corporation of Bristol, because its trade formerly constituted the main commerce of the West. This arrangement has been ratified by successive Acts of Parliament; of which, the 43d & 47th of GEO. III. confirmed the powers of that Body, over all the ports comprehended in the space between Lundy Island, and the mouth of the Avon; at which part the Bristol Channel terminates, and the Severn river, properly so

called, commences. Such has been the privilege; yet, it is quite a question, what had been the worth of it to navigation, but for the buoys, the lights, and the admirable attention of the Trinity Board.

Under this authority thus granted, the Bristol pilots claim, and exercise, a superiority over those of the adjacent ports; and on boarding a vessel, will supersede any other timoneering wight who may have taken her in charge; and the latter is forthwith dismissed, without fee or remuneration. But this is not all. It is a source of complaint, that after the channel pilot has conducted a foreign vessel into Cardiff Roads, or to the mouth of the Usk, he—not possessing the requisite local knowledge—delivers her up to the river-pilot; and thus two distinct rates have to be paid by the ship-owners.

When the great and increasing trade of Cardiff, and of some neighbouring places, seemed to entitle them to the advantage of regulating their own navigation, it was thrown out, that “inconvenience may arise from different sets of pilots, belonging to those several ports, cruising on the same ground.” Still, this remark—as well as some others which are occasionally dropped—relates rather to the *genus* than the *species*, and might be applied to all the various branches round our coasts. But the public weal should be kept in view; for after all that can be asserted about the dangers of competition, it cannot be denied, that it is a still greater evil upon commerce, to have people foisted upon it, who are without knowledge or responsibility. The maritime interests—as I told Mr. Labouchere, when he was about to introduce the matter before Parliament—the maritime interests have a right to be considered in such a case, as well as all the wheel-within-wheel influences. It signifies little to the shippers who are the appointers, provided those appointed are capable of the charge expected; but as Bristol has, for half a century, witnessed trade to increase rapidly on this coast, without the slightest care of it, it is quite time to look to the helm. It is obviously owing to their neglect and laxity, that the Cardiff Pilots are—with a few exceptions—proverbially inefficient;* and as they hang about Arlope Point in spritsail yawls, similar to the Bristol pilot-boats, they often obtain the charge of ships far beyond their “art.” There

* Just at the time of this Committee business, a ship called the Mountain Dew, was run ashore THREE SEVERAL TIMES, by a Cardiff Pilot; and Timothy Driscoll, the master, was grossly assaulted for refusing to pay the pilotage charges.

are now no fewer than twenty-eight self-appointed, unexamined, and unlicensed men, exercising the office here; who are, of course, under no control or responsibility whatever. A natural consequence of this is, carelessness in the performance of duty, while those who are really competent, are discouraged; and much inconvenience and loss to the shipping interests, are the results. Now there can be no sound reason, why Cardiff should not be placed in as favourable a position as Swausea, Tenby, Newport, Gloucester, and Bridgwater; and have a board, or a sub-commission, for the appointment, regulation, and dismissal, of their local pilots; thereby rendering the men more useful, and their station more respectable.

But to return to the Committee proceedings. On my being liberated from the witness-box, the next person called up was Captain MARTIN WHITE, of the Royal Navy, a gentleman of upwards of forty years' standing in the service; who had long been employed by the Admiralty, in surveying all the ports of the British Channel—on the French, English, and Irish coasts—and the Channel Islands. He had therefore examined every pil and bay in the Severn; and was occupied no less than nine months on the spot in question. After the introductory fire which is common to such examinations, the following matters of fact passed:—

Q. BY MR. HARRISON.—Will you state anything that occurred to your ship; your ship was called the Shamrock?

A. Yes it was. Had I known the danger of the Ely, and the mischievous propensities of the tides there, I should not have been justified—either in my own opinion, or in the opinion of the Lords of the Admiralty—in making the attempt.

Q. And you got into the Ely with your vessel, without being aware of the circumstances to which you have just now alluded?

A. Yes; and very nearly fell over.

Q. Was that in consequence of taking the ground?

A. In consequence of taking the ground in the centre of the Pil.

Q. Will you point out, on the map, whereabouts it was that you took the ground?

A. A little below Cogan Pil.

Q. There you took the ground?

A. Yes.

Q. How near were you to the shore when you took the ground?

A. Midway between the two shores.

Q. What occurred on your taking the ground at the ebb tide? Was the vessel placed in any circumstance of danger from it?

A. She very nearly fell over. I was obliged to get the yards and topmasts, and other spars, over to save her from falling.

Q. You say that she was in the middle between the two banks, but to have made her fall over in that way, she must have grounded on some acclivity? On some inclined plane?

A. It was rather the sharpness of the vessel that occasioned it at that time.

Q. Were you in the mid-channel of the river then? That is, the water-course part of the river?

A. Pretty nearly.

Q. Will you state, with reference to the answer you just now gave, that if you had been aware of the state of the Ely, you would not have felt yourself justified in taking your ship into it,—what those circumstances are, with reference to the tides and the navigation of the Ely?

A. The declivity of the banks, and the mischievous propensities of the tide, which runs across in all directions, not only in the Ely, but in all tortuous rivers.

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Q. Now, is the run of the tide across, inconvenient to a vessel coming in or going out of the Ely?

A. Most inconvenient, except with a fair wind.

Q. If there was no fair wind, what would be the effect of it then?

A. She must inevitably go ashore, without some assistance.

Q. Therefore she cannot enter without she has, what you call a fair wind, with which she can lead in?

A. A leading wind.

Q. She cannot get in or out without a fair wind?

A. No.

Q. Now in coming out of the Ely, will you mark me, on this Chart, at what point, where about she comes out to, in order to lie here, to go down or up the Channel?

A. She cannot do so, until she gets as far as the Eastern Hollows.

Q. In order to lay her course, either up or down the Bristol Channel, she would come out by that which forms the outer entrance of the Bute Dock?

A. She must come out there. The same Channel that constitutes the entrance to the Bute Dock. That of course would depend on the wind at the time.

Q. Will you state to me the reason of that; does that not arise out of the situation of the shoals; the situation of the ground in this direction? (*Pointing on the Chart.*)

A. It arises from the promineney of the shoals, which you have just been talking of.

Q. In order to clear that ground, she must take the course that you describe, and come into that, which ultimately is the entrance to the Bute Dock?

A. On the ebb tide the Channel-stream sets very strong.

Q. That is, on that of Penarth Head?

A. Yes.

Q. You have heard the evidence of Captain Smyth. Do you concur with him in the evidence that he has given, with respect to the winds that are favorable winds for going in, or coming out of the Ely, as well as those that are favorable for going in and coming out of the Docks?

A. I believe as far as the Bute Dock is concerned, we do agree; with the exception of one point, with regard to the winds in the Ely, we do not quite agree.*

Q. Will you be good enough to state with reference to Bute Harbour, what are the winds that enable you to come out of Bute Harbour with advantage; that is, when you have got out, that can enable you to lay your course up or down Channel?

A. With any wind from South East round northerly to West North West a vessel may sail out of the Bute Docks.

Q. Then for going in?

A. From East, to South East, round southerly to North West.

Q. Give also the point for going in and coming out of the Ely, where you say you differ in some respects from Captain Smyth; will you state the difference between Captain Smyth, and yourself, as to going in and coming out of the Ely?

A. I think vessels may always come out of the Ely, with the wind between north-north-west, and south-south-west.

Q. That is, going into the Ely?

A. Coming out of the Ely.

Q. Now, you say she can come out of the Ely with the wind at all those points; but they would not enable her to go down the Channel; although she may go up to Bristol and Gloucester?

A. She cannot go down the Channel; she may pursue her course down the Channel with those winds, if she chooses to beat down; but then she must have an ebb tide to do so.

Q. If the weather is such, as will allow her to beat down with the assistance of an ebb tide, she may go her course down the Bristol Channel with any of those winds?

A. Till the ebb tide ceases. She cannot go against both wind and tide.

Q. No, that is impossible. With respect to going up to Bristol, and above, those winds which you have described, in case she come out, would be favorable for going up?

* This disagreement was trifling indeed, when variation was allowed for; and bore in no part upon the substantial question. Taking all the kinks out of the coil, both Captain White and myself were fully agreed on this—that fair winds down the Bristol Channel, shut up vessels in the Cogan Pil.

A. Going up to Newport or Bristol.

Q. Now looking at the two, the Bute Harbour and the Ely, as ports, of course with reference to their access, for purposes of trade, to which do you give the preference?

A. To the Bute Docks certainly.

Q. With reference to those points, the facility of access, egress and ingress, as far as words are concerned; that applies to all vessels, small or large?

A. Small and large.

Q. Now, are there any more circumstances, with reference to the Ely, in consequence of your having been in it, and examining it. In what way, do you consider it disadvantageous, considering it with reference to making a port?

A. No other than the inconvenience I have already mentioned.

Q. The rapidity of the tides?

A. The rapidity of the tides, the difficulty of getting out and in, even in fair weather, and the danger if you should take ground on either side, of upsetting.

Q. Now, is the state of the banks such, with reference to the slopes, as to make it difficult for a vessel frequenting a tidal harbour, taking the ground with safety?

A. In most places it is.

Q. Then taking the slopes of the mud-banks on each side, down to the part which ultimately becomes the current of the river, in most places, do I understand you to say, that for such vessels, accustomed to take the ground, from Swansea and other ports of that description, the great proportion is not safe ground for a vessel to take the ground?

A. I think not.

Q. Does that limit the usefulness of the Harbour, even for coasting vessels, that are in the habit of taking the ground, very much by contracting the space in which they can take the ground with safety?

A. Necessarily.

* * * * *

Q. Is there any run of tide across these Flats, (*Cardiff Flats*) of a description which would produce inconvenience in the use of steam-tugs, when the wind would not allow vessels to make use of their sails?

A. Not such as to produce inconvenience, I think.

Q. Now you have stated the winds which enable vessels to go out of the Bute Harbour, and others to come in; and you have said that, in that respect, you consider the Bute Harbour as having the preference over the Ely. Now give a reason for that. Will you explain to the Committee, in what respect the Bute Harbour is superior in convenience, with a view to general trade, to vessels

going down the Bristol Channel; and the superior advantage with reference to the winds for going in and out of the Ely?

A. I speak of the facility of egress and ingress particularly.

Q. You have stated the winds that give it. Do those winds you have stated generally, put it on a superior footing to the Ely, with reference to vessels going in and out?

A. I think they do.

Q. Is that applicable to general trade, in making the voyage, in addition to the mere getting in and out. When they have got out, have they the facility of immediately proceeding on their voyage?

A. With certain winds, certainly.

Q. Then, I am to take it, that in your judgment, in every respect, taking the question in a nautical point of view, the Bute Harbour is, with respect to situation, superior to that of the river Ely?

A. In a nautical point of view, certainly.

Q. Have you been consulted, as you have heard from the evidence of Captain Smyth that he was—have you been consulted in an early stage on the situation of the place?

A. No, I was not.

Q. Now, suppose you had been consulted at an early stage, before any docks were made, should you have had any doubts as to the advice you would have given, as to the selection of the place, for making a port for Cardiff? Should you have had any doubt as to the point you would have settled on for making the Docks, with a view of turning Cardiff into a port, if you had been consulted at an early stage, before any thing had been done on the river Taff?

A. Not in the least.

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This, and further confirmation of my inductive conclusions, on the authority of effects produced by experiment, must have largely surprised the leaders in the enemy's camp, after the illusions they had chosen to indulge in. But as appearances rather than facts were strongly clung to, Mr. Sergeant Wrangham again wearied the witness and the Committee with a long cross-examination, which had no other effect than that of increasing the expense of the proceedings. But further discomfort awaited them still, for the next person who was put into the box, was MR. ROBERT STEPHENSON, the eminent Civil Engineer. He underwent a long and varied examination upon all the points of the Railway, viewing its details and general interests. In this, although he disclaimed any intention of meeting questions of a purely nautical tenor, the following

opinions, upon the ports under consideration, were thus elicited :—

Q. BY SERGEANT MEREWETHER.—Did you examine the Bute Docks at that time ?

A. Yes.

Q. And the Ely river ?

A. With Mr. Brunel, for the double purpose which I have before alluded to, of seeing the practicability of having shipping places, and what the charge should be at the docks.

Q. Will you just state what the purpose was, and what you did with Mr. Brunel there ?

A. There was an impression on the mind of the Promoters of the Taff Vale Railway, that the Bute Docks were inefficient or inapplicable to the shipping of coal. I went down there to meet Mr. Brunel, to consider that question, and we examined the Dock ; the other object we had in view was, to compare the relative capability of the Ely river with the Bute Docks. We walked over the whole of the Ely Branch, and over the Bute Docks, and discussed various points. On our return to London, it was our intention to have met again ; but the negociation took a turn, and from that time I have had no communication with Mr. Brunel at all.

Q. You first of all examined the Docks, with the view of ascertaining whether they were capable of taking the trade, I presume, which would come down by the Railway ?

A. Yes.

Q. BY MR. SERGEANT WRANGHAM.—Coal I suppose ?

Q. BY MR. SERGEANT MEREWETHER.—Of course you took into your consideration, the traffic which would come down to Cardiff by the Railway ?

A. Certainly.

Q. Will you have the goodness to state to the Committee, what opinion you arrived at with respect to the capacity of the Bute Dock to take coal, and mineral, to export them ?

A. The conclusion I came to was, that the Bute Dock was quite adequate to take all the Coal, which the 'Taff' Vale Railway would bring down, for some time to come.

Q. Will you mention what time you contemplated ?

A. They spoke of half a million of tons per annum, (*coals*) but how long they would be in reaching that I do not know. I am not sufficiently acquainted with their prospects, to judge of the probability of half a million of tons coming down there for the next five or six years. I could not know that of course.

Q. Do I understand you to be of opinion, that the Docks would easily take the coal, which is likely to come down in five or six years ?

A. I think if you take it at half a million, or six hundred thousand tons a-year, the Docks are quite capable of shipping that.

Q. According to your judgment, the Docks would be quite capable of taking in that quantity ?

A. Certainly.

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Q. Do you mean by the additional accommodation, supposing the Company complained of the accommodation of the Bute Dock not being sufficient, that Lord Bute was to make them more ?

A. Yes.

Q. Who were to be the judges of the sufficiency of the Bute Dock ; who were to be the persons to determine that ?

A. That just brings me to the point which caused the split. The Railway Company insisted on it, they made it a *sine qua non*, that they should be the arbitrators as to the efficiency or insufficiency of the Bute Docks. I objected to that, as being unjust and unfair ; and we proposed that any tribunal which should be fair and equitable, to determine whether the accommodation was or was not sufficient, should be adopted between the two parties.

This is all pregnant with meaning, as displaying the conduct of those who have so expressly decried the motives of others, in their Ninth Report. But this may be still further illustrated, by another little reason why the aforesaid " split " took place, thereby preventing any arrangement for saving the pockets of the general subscribers. Mr. Stephenson had, it appears, full powers to treat with the Railway Company, on the subject of tolls ; and he offered to fix a rate upon Coal, of seven-pence per ton, including wharfage, harbour-dues, and remuneration for all expenditure ; terms to which Lord Bute was to obtain an Act of Parliament, or give an agreement which would bind his successors. But though all the contracting parties actually acknowledged the liberality of this proposition, there was a bar to their accepting it ; and thus it oozed out.

Q. BY MR. SERGEANT MEREWETHER.—You stated that seven-pence was agreed on ?

A. Yes.

Q. There was a meeting, I believe, at which the rates were talked over ; do you remember at the close of the first meeting, one of the Directors stated the reason why they would not enter into an arrangement ?

A. I do not know ; it was a matter of conversation. I do not know that I ought to allude to that. I do not think the question ought to be put to me here. You allude to the bond of Mr. Robert Clive ?

Q. Yes.

A. That was urged as a matter certainly ; but it was more as a matter of private conversation, than a professional communication. I declined to answer it, because I thought there might be some feeling, on the part of the gentleman who made use of the expression.

Q. Was that given as a reason, at the time, for not making the arrangement ?

A. Yes, it was ; as a barrier to the abandonment of the Ely Branch ?

Q. BY MR. SERGEANT WRANGHAM.—As a barrier to the abandonment of the Ely Branch, you presume ?

A. Yes, that was my understanding.

During this interlude, many points substantially connected with the welfare of the railroad were dwelt upon. When the Counsel, in his agony, represented that the Managers had already spent £25,000 in land, which would be useless to them if they did not make the Ely Branch ; Mr. Stephenson pithily replied, “ I think that having spent money improvidently, is no reason that they should go on doing so.” When he went out of the box, the seafaring evidence was resumed, by calling in—

MR. NICHOLAS BREWER, a Cardiff Pilot, who had been a sailor from infancy—was long master of a merchant-man—had plied in his present vocation thirteen years—and had taken charge of more large ships, than any of his compeers. After bearing professional evidence to the excellence of the Bute Docks, he proved having seen the public notice, for a blue flag being hoisted when there were ten feet water at the lock-gates ; and a white one when fifteen. This notice was taken verbatim from Bye-Law 13, (*see Appendix*) and certified by Mr. George Abbott, the Dock-master ; who directed it to be placed on the walls of the watch-house, at the entrance of the sea-basin ; and also handed copies of it to several pilots. As to the poor Coganites, they gained but little comfort about the Ely, which so many of them had been led to believe, was a place long frequented by shipping ; for this witness deposed as follows :—

Q. BY MR. TALBOT.—You have been long familiar with the mouth of the Ely, I dare say ?

A. I have.

Q. What do you think of that as a port, contrasted with the Bute Docks ?

A. There is no comparison with the Bute Docks for safety, and water, and admitting to go in, or out.

Q. Do you know what is called the West mud-bank, or Penarth Flats?

A. I do.

Q. It is sheltered by the high ground of Penarth?

A. It is from the southerly winds.

Q. It is a place of shelter, I believe, near the Penarth Roads?

A. It is.

Q. Suppose it to be so, is there any reason why it should not be an equal place of shelter, for vessels destined to the Bute Docks?

A. None.

Q. It lies between the Ely and the entrance Canal?

A. Between the Ely and the Taff.

Q. Is there any difficulty in vessels which have taken refuge there, being taken into the Bute Docks?

A. Not the least.

Q. Did you ever know vessels take shelter in the Ely itself?

A. In the river.

Q. Yes, in the river?

A. Never.

Q. Do you consider it a good place for shelter?

A. They cannot lie there.

Q. Why not?

A. Because they touch the ground on their keel, and swing right across, and bring their anchors home, or part their chains; particularly if there is a fresh in the river.

Q. That is—they would lose their anchorage, does that mean?

A. That is it. They would swing right across the tide. On the flood again, they are apt to tumble over their anchors. They will never lie in the river.

Q. Those freshes, which come down, increase the danger?

A. Of course.

Q. They are not unfrequent?

A. They are so rapid.

Q. Do you conceive there would be danger to a vessel, taking refuge in the Ely itself, being driven on shore?

A. If she is not driven on the shore, she would run the risk of straining herself in the river, in lying across the tide?

Q. If she brings her anchor home, is there danger of her going ashore?

A. She is against the steep banks of the Ely, and if she goes on shore, she is likely to capsize.

Q. Did you ever know any system of tracking in the Ely? You know what tracking means? The drawing with a tow-rope?

A. I never heard talk of such a thing, in the Ely particularly. No sailor would ever propose such a thing.

Q. As far as you know, there is no tracking there?

A. No. The tide sets right against the shore.

Q. Suppose there was a towing-path, as I suppose it is to be called, as a tracking-path laid down there, (*pointing to the plan*), and vessels towed from Cogan Pil Shore, what would be the effect of that?

A. They would be worse off than when they commenced.

Q. You think there would be a fair chance of her going on shore?

A. She is bound to go ashore; there is nothing to stop her if the wind is easterly.

Q. What part are you speaking of?

A. The lower part of Cwtsh-y-Cwn Beach. The Ely Beach.

Q. I suppose that is Welsh?

A. Yes.

Q. What does Cwtsh-y-Cwn* mean, being interpreted?

A. Mr. James there (*pointing to the learned Counsel*) can tell you?

Q. (BY MR. SERGEANT WRANGHAM.)—We want you to tell us?

A. I cannot; I do not understand the Welsh language.

Q. (BY MR. TALBOT.)—Come and point it out?

A. It is near to this point. That is what we call Cwtsh-y-Cwn Beach. (*The witness pointed it out.*)

Q. BY MR. SERGEANT WRANGHAM.—Is it just under Pilots' House?

A. It extends along the beach to there.

Q. BY MR. TALBOT.—Do you know the Pilots' House?

A. I do.

Q. Is it just under there? (*holding out the plan.*)

A. It is under there.

Q. The tide sets pretty strong there?

A. Down on it.

Q. Supposing there is an easterly wind blowing—such a wind as when the Ocean was in the roads the other day—what would be the effect of the towing-rope pulling her here, and the tide and the east wind setting the same way?

A. It is impossible to get out. She must come ashore on the beach.

Q. At the same time, you believe, she would be going safe out of the Bute Docks?

A. Yes, under her topsails.

Q. I think you stated to me just now, you had never known a vessel take refuge in the Ely?

A. Not in the Ely.

Q. When they have taken refuge in the neighbourhood of Penarth, it has been on the Flats?

* It means, as I am told, the Dog's Lair.

A. On the mud.

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Q. BY MR. JAMES.—Have you ever been in a boat or ship on the Ely?

A. Never higher than Cwtsh-y-Cwn.

Q. You have never been with a boat or ship up the Ely?

A. Not to my knowledge. I have been across from Cogan Pil over to the Grange, bringing some drowned men from a ship that went ashore.

Q. That is no answer to my question. You have never taken a ship in or out?

A. Never in my life.

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Q. Suppose a man, who has been some twenty-five years master of a trading vessel, were to tell you he had taken his smack, of one hundred tons, in there, and had room to turn in and out?

A. I will make an affidavit that it is a falsehood. I heard the man declare it; and I refer to any maritime man in the Port of Cardiff.

Q. The object of the Committee is to get at the truth?

A. I did not come here to fabricate anything. I declare the facts, and nothing but the facts. I do not care on which side it is, but that I was ashamed to hear.

This was worm-wood to the Managers; who, however, though the conclusion had now become inevitable, directed their batteries to be played away a considerable time longer. But at each cross-question, the Ely concern became shallower. No ships could be proved, after all their confident assertions, to have resorted there: and their handy tracking-path was greatly ridiculed; Captain White reminding them, that the horse could go no further, than he could get ground to stand upon; and Brewer cutting it up stock-and-fluke. Their troubles in this particular respect were, however, not yet over, for the next witness called was—

MR. JOSEPH MAYOR,—Master of the Trinity Cutter, stationed in the Bristol Channel; who had been twenty-two years in the service of the Trinity Board. After the usual commencement, his evidence ran thus:—

Q. BY MR. TALBOT.—How far did you go up into the Ely, that once?

A. I merely went to Cwtsh-y-Cwn.

Q. Do you know the several mud-banks, and grounds, in the mouths of the rivers Taff and Ely ?

A. I particularly noticed them at low water.

Q. Have you been frequently obliged to moor your vessel on the sand, in different parts of the Harbour ?

A. I have been pretty well all over the mud in bad weather ; and having a sharp vessel, I have been obliged to poke her into any hole, to keep her in safety.

Q. From the way you answered, I should suppose you have experienced risk and inconvenience there ?

A. I have experienced considerable risk, since I have been on that station.

Q. Do you think the New Bute Docks are likely to prove an advantage to you, and others, with respect to safety and convenience ?

A. I speak conscientiously. I never found a harbour for a sharp vessel, till I entered those Docks.

Q. At Cardiff, you mean ?

A. Yes.

Q. What water does your vessel draw ?

A. The vessel I had, is now taken from me. She used to draw sometimes eight feet, sometimes nine, according to the stores we had on board ?

Q. That was the most, was it ?

A. Yes.

Q. Do you consider the Ely a safe place to moor a vessel in ?

A. Not in the bed of the river.

Q. What would be the effect of mooring a sharp vessel there—in the Ely ?

A. At low water, the vessel I had charge of would be no more. She would be ruined if she went aground in a place like that ?

Q. Would she capsize or not ?

A. She would not rise again, without the assistance of other vessels.

Q. With respect to the winds in getting out of the harbour,—are there many winds in which the getting out of the Ely would be a matter of difficulty ?

A. Winds from the southward and eastward.

Q. What would be the state of things in the Bute Docks at the time ?

A. There would be a free wind out.

Q. Is there any necessity, during the high tide, for coasting-vessels to follow the track of the entrance Cut, particularly into the Dock, the whole way ?

A. No. It depends on the state of the tide, and how the wind may be.

Q. Suppose a sufficiency of water, they might enter the entrance near to the Dock, might they not ?

A. Yes. I remember going over the mud, within the buoys a great piece, with a vessel of nine feet water.

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The numerous questions which ensued—whether upon sharp, flat, or round-bottomed ships—whether square or fore-and-aft rigged—only still further established the indisputable superiority of floating, over tidal ports. Mr. Mayor was well followed by Mr. EDWARD JONATHAN STEEL, who, though not a seaman, having been sub-engineer at Port Clarence five years, and principal engineer two years more, was thoroughly acquainted with the practises of transporting and shipping coal. All this tended to shew, that it would be something more than obstinacy to risk an enormous outlay, upon so chimerical a scheme as the Cogan Pil concern. But I will now close this part of the Taff Vale Railway case—if such it can justly be called—by submitting an extract of the judicious and eloquent summing up of the several points, by MR. SERGEANT MEREWETHER.

“ Now, Sir, the evidence has been all given with a view to drawing a comparison between these two harbours. (*The Bute Dock and Cogan Pil.*) The Committee will indulge me a moment in drawing their attention—following up the observation I made before—to the circumstances of the two harbours. Cardiff is a town on the Taff,—in all human probability, like other towns, built on the Taff, because the Taff afforded communication with it. So important was it to have a good outlet from the valley of the Taff, that the Glamorganshire Canal has been added to the advantages of that port, besides the natural navigable river of the Taff; and since that, the Bute Ship Canal has been made, and is now in operation. Does not that bear strongly on the point I was observing before, that the Ely has never been used; that the Taff has been used by the inhabitants of that country, from the earliest time, by the planting of a town, and improving the access to that town, from time to time as the trade of the country rendered it necessary. There is the stamp of experience, put on the advantages of communication, with that side of the water; on the other hand, is there, throughout the whole of this evidence, any one single account given of any thing more, than a few small stone-vessels going up the Ely, and loading there? I say all the experience, up to this time, is in favour of the Taff side of the water; all that is on the other side is mere speculation and opinion, and prospective conjecture; and if there is any weight or value in experience, as opposed to conjecture, that experience is in favour

of the use of the Taff, or that side of the bay, instead of the use of the Ely on the opposite side. But it is said, for that the evidence goes to—that the Ely is better adapted for small vessels; that is the assertion, and the whole of the assertion, because they admit, as my friend Mr. James most properly and candidly stated, that the Ship Canal was a magnificent work for a single individual to have done, and nobody can doubt it; and he said it was most useful for its purpose. And he and all the witnesses say, that for sharp vessels, for copper-bottomed, and for large vessels, the Ely is unfit; and the Bute Dock particularly well calculated; there is, therefore, nothing left for the Ely, but the few small vessels, which may be loaded with coal, and may carry on an inferior trade in coal; that is the plain truth of the case as established even by all their witnesses.

“It is said that, for such vessels, a tidal harbour is better; but how is it that the Taff, which is a tidal harbour, was in a great degree superseded by the Glamorganshire Canal? If the tidal harbour is better for this sort of vessels, how is it these improvements have been thought of? Why has the Bute Canal been made? They would answer, it is intended, for another class of vessels; and would still adhere to their statements, and say, the smaller vessels may go into that river, and may take the ground there, and consequently be loaded and unloaded in the manner they have suggested. Well, now, it is in vain, I presume. I should think that there is no person acquainted with naval matters, or commercial matters, connected with shipping, that can have the slightest doubt, that a vessel going into a tidal harbour, and taking the ground, is a bad thing in itself. A ship is built to float, and a ship is never so well as when it is in that which has often been called, its natural element; and every time it takes the ground, to a certain degree there is risk, and a chance more or less of its being injured. I am confident nobody can doubt this proposition. It is true they build some ships so stoutly and flat-bottomed, adapted for the purpose, that they may, without great risk, take the ground; still it is worse than if they were afloat: and, I say, if all the rivers in England were examined, it will be found that where they can by possibility take in their cargoes and be afloat, that is always adopted, as we know; the number of little quays that everybody sees in all the rivers, where there happens to be a little steeper bank than in other parts, for the purpose of doing it, and where the ship may be kept in the water-way afloat, are abundant and convincing proofs of that. At this time of day, when our coast, fortunately, in the North has been studded with docks for the purpose of removing this inconvenience, and putting ships into their proper places, after that to fall back again and talk of the advantages of tidal harbours, as compared with docks, seems to me to be retrograding, to an extent which one would not expect; and least of all for these small vessels that

are to go into the Ely, and for which alone they claim the advantage of that as a port.

“There is another thing, too, which has transpired in evidence, abundantly throughout this inquiry, that these small flat-bottomed vessels calculated to take the ground, are resorted to instead of large vessels, at a disadvantage; and if there were docks, there would be a larger class of vessels employed. So that they would be building a harbour for a class of vessels which in all probability will be very soon not used, when good and useful harbours, well arranged, will be created in different parts of the country to meet trade. I am not at all overlooking that evidence which was given, and which bears on this part of the case, that there are some harbours where small vessels can go in, and where large vessels cannot, and small vessels must be kept for that purpose. I admit it: at the same time, it must be considered from the very nature of things, that would have a tendency to produce a very limited and not a great and flourishing trade, which they must look to, to pay the enormous expense that they have suggested they would incur, in making the Cogan Pil Line. Now, it is said, there is more water there; that matter was inquired into at great length by them, in order to show, that there is more water to get into the Ely than into the Bute Dock. Now, Sir, it does appear to me, on the face of that inquiry—I did not ask the witnesses many questions, because I saw in an instant how absurd, if I may use the expression, without offence, how absurd such a course of evidence was. Consider, Sir, for a moment (I do not know whether you have a map before you) what the point of comparison was. They put a man at the mouth of the Dock, for the purpose of seeing what was the depth of water there, and they have some other man at the Cefn-y-Wrâch, which is at the entrance, be it observed, both of the Ely and of the Taff—it forms a mouth to each—it lies between the mouth of the two rivers. Can anything be so absurd as a parallel between these two positions? I believe I have the honour of speaking now, in the presence of individuals who understand this subject so much better than myself, that I almost tremble while I state it, lest I should be in the wrong; it is only a satisfaction to me that if I am wrong, I shall be corrected.

“It appears to me, Sir, the proper comparison is between the Dock-gate and Cogan Pil. I dare say it must be well known to many honourable members, that if a ship or vessel is going to a port, and wishes to make the most of its time, it makes the most of its water, and carries the tide with it; supposing, therefore, two ships coming in, one to go to the Ely, and one to the Bute Dock, what is the comparison between them? Not the quantity of water at the Cefn-y-Wrâch, because both would use that water, and take that water with them, and there is a considerable distance from thence to the Dock, and to Cogan Pil, and the water will increase before it gets there; in truth, they will go up with every

drop of water, which will carry them over the ground they wish to pass, and will take them to the place; and therefore to institute a comparison between the Cefu-y-Wrách and the Dock, is really misleading the Committee. If they wished to institute a fair comparison, they should have drawn one between the navigation at the entrance of the Taff, and the entrance of the Ely, and then have drawn a comparison afterwards with the sill of the Dock, and the place where they propose their vessels should lie up the Ely; that would have been a fair and proper comparison. It appears to me, therefore, there has been a little mistake in the way in which it has been put, and the result is one which is preposterous, that there should be only ten feet of water at the Eastern Hollows and the mouth of the Cut, at the same time when there was fifteen feet of water on the sill. This was what EVANS was led to by his supposition, that the blue flag meant, in point of fact, fifteen feet of water, when there was only ten, so that in truth, his evidence proved no more than this, that there was at the entrance of the Cut, the same quantity of water as at the sill, which every body believes; because there is really very little; there might be a slight shade of difference, but one, which in all probability, their observation was not accurate enough to detect.

"Now, Sir, there is another point also which I approach with much anxiety, lest I should make an error in it, but I think I shall not be mistaken in that, because in this country we, to a certain degree, all of us know a little of naval affairs, and pick up some little knowledge on the subject which may be sufficient for general purposes. The way I should consider the subject would be this—when they say the Ely is as accessible and more accessible than the Bute Docks, I figure to myself, immediately, two vessels coming up the Severn going to their several destinations: suppose them to meet together, what course would they take? Supposing they are coming up with a fair wind, the fair wind which they have would carry the one directly up the Ship Cut; a fair wind would take it directly into the Ship Canal, but the wind that carried that one there, would not be fair for the other,—I am almost afraid to say fair, because I know it has a technical meaning, but it would not be so fair: there is a point to be weathered, there is a river to be gone up at a different angle from the straight line at which the Bute Ship Dock is to be approached, and therefore the same wind that would do completely for the Bute Dock would not do for the Ely.

"Now, the Cut of the Bute Dock lies north and south, and a wind with more or less of south in it is very prevalent indeed on that coast, as every body knows; and when we see the fact itself of the Dock being placed there, and the Cut made to it, it seems clearly to have been made with the view of availing themselves as much as they could of the most favourable wind for coming up the Channel, and putting the Cut in such a direction as to use that

with advantage. The Ely is just the contrary to that; the Ely falls back; tends in a different direction, and a different wind would be necessary for going up the Ely. So again coming out. Supposing two vessels coming out, one out of the Docks and the other coming down the Ely, no vessel would go out of the Dock of course with the wind direct in its teeth, but it might get out, perhaps into Penarth Roads, and there, taking advantage of the slanting wind, get out to sea; but can the vessel out of the Ely do the same? The steam-tugs are applied for taking them from the Docks, and are well applied, not the slightest danger or accident has happened since the Docks were opened, and the number of vessels that have gone into them has been proved to the Committee. There is no possibility of giving a test of the same sort with respect to the Ely, for it has never been used. Supposing they are coming out, if they have the wind or tide against them, they cannot come out by the ordinary means of sailing, they are obliged to resort to tugs; the steam-tug is applied without difficulty, as is tested by experience at the Bute Docks; they have not the steam-tugs—perhaps they will have them in the Ely: if they do, what is the evidence that has been given? There is a set of tide; the tide has been described as flowing smoothly and gradually over the flats in front of the Bute Dock; the tide has been proved, and which every body would by anticipation assume, to be an uncertain, variable, and eddy tide, coming out of the narrow channel of the Ely; and I would submit it to the consideration of any naval man whether that is not a dangerous, difficult, and uncertain navigation, and so they know it to be; they felt they must have some provision for this.

“Mr. Powell, with great readiness, in his anxiety to make the Ely a port, had got a remedy, and one or two other witnesses put it in the same way, and if I wanted, Sir, to shake their testimony, I would rely on that fact to show, how hastily and incorrectly they formed their opinion. They said they would have a tracking-way made at the side of the Ely, and track out by a horse; one word in cross-examination put that to rights; they can only track up to a given point, they cannot track round Penarth Point, which is to be weathered, and when they have so tracked down the river and come to that point, which is to be weathered, they are then deserted by the horse, and there would be no power, if there was an adverse wind, to do anything but stretch over towards the Bute Docks. I hope I may be correct in this view of the thing. I conceive I am, and if I am, it is as clear as can be; besides which, I take it that one glance, in a nautical point of view, points out the difference between them. There is no point to be weathered to get in or out of the Bute Dock; there is a point to be weathered to get out of the Ely; and I believe, Sir, when we reduce that term, “point to be weathered,” into terms more particular and more distinct, it will be seen they require two winds, or at least

some variety of winds; one for going down the Ely, and then another wind to get down the Channel; and those two chances are opposed to the simple point at the Bute Dock of your having a favourable or an adverse wind. The point of favourable or adverse wind is equally applicable to both, but the additional difficulty of weathering the point, for which purpose you must have another direction of wind, is peculiar to the Ely. In that point of view, therefore, there is no comparison between the two ports.

“Again, they say there is no comparison in point of dispatch. Now, on that I must confess at first they did seem to me to make a sort of *prima facie* case about dispatch; that vessels having got into the Dock would be locked into the Dock and locked out again, and that would create some delay, which a vessel running up the Ely, going to the staith, taking her load in and coming down again, would not incur; it did seem *prima facie* there would be a little more dispatch in the one than the other. But I think that is altogether fallacious, and as far as I have been able to follow their evidence, I think I can satisfy the Committee it is so. My friend seems to be of a different opinion; he will inform the Committee whether he thinks I am right or not on that point. I will just take up my same system, and I will suppose two vessels coming up with a flowing tide, each on the top of the tide, and bringing the tide with them as far as they can; the one goes to the Bute Dock, goes directly with the flowing tide to the Bute Dock, and enters at that period of the tide which has been described to the Committee over and over again, as the time at which a vessel can enter the Docks. It has been already proved, a vessel in the Dock can be loaded faster than it can at the staiths; it will come out of the Dock again after it has been loaded, perhaps that same tide, for Captain Smyth proved there were vessels that, on one occasion, had gone in and out in the same tide; there is no reason why that should not be done, and as far as the dispatch of loading goes, it is clearly in favour of the Dock. Then the other vessel goes up the sinuous course of the Ely; the freshes come down the Ely; the eddy will not enable that vessel to get as quickly up the Ely as to the Dock. I dare say there will be water enough if she was to take advantage of the early tide; there would be plenty of tide to take her up, and she would come along the tide up the Ely. Now, all their own witnesses also go the length of showing, she is to take the ground, that is the object. If she is to go up to be loaded, and to take the ground, I want to know what essential difference there is in the way of dispatch, in coming in and going out, between a vessel lying locked in a Dock, or lying a-ground on the shore, if she is to be fixed and fastened there for the tide. If she went up with the flowing tide, she stays till the stream ceases to flow, she takes the ground, and there she must remain till another flow comes up, and floats her again, that

is quite certain. There is no atom of difference between the two, and the witnesses speak to their not lying comfortably alongside the staiths. As to the dispatch, if one can go out with the same tide, the other can go out with the same tide; perhaps neither of them will. I care not in which way it is put, I contend there is no pretence for saying there is more dispatch in the one than the other.

"I should like to know how many instances they can show of a collier going up a river, lying alongside the staiths, loading, and going back again, with the same tide? Do they think there is nothing to be got when those vessels come in? There are all their necessities, whatever they are, things to be supplied, and things to be done, and there is no chance of their going to sea with the same tide; and, practically speaking, it would appear from their own statement, they would be all expected to take the ground; that is the usual course, and then the Dock and the staith would be on the same parallel. Thus, when she is along-side, the vessel is to be loaded by staiths. I will not detain the Committee by going through the evidence which Mr. Stephenson gave, with respect to the difficulty of adjusting staiths, in a river where the tide rises to a space of thirty-two feet; but the banks sloping, there must be benching. They themselves contemplate benching, for the vessel to take the ground; and when it is there, if it is sloping, she may fall over. At all events, it is certain she will be obliged to move, if she means to go to sea in the same tide; and she must be watched every instant. If they mean to avail themselves of the ebb to go out again, she must be moved every instant;—she must be moved out into the deep water in the middle of the river; and when she is moved out there, how are the staiths to reach her? The truth is, Sir, there is a practical confusion of ideas; they have never considered the two simple propositions of how they are to be loaded, when they are on the ground, and what is then the result; and how they are to be loaded when they are afloat. If they will take it, as I believe they mean to do, when they are aground, they may contrive the shore in such a manner as to make the vessel lie there; if they mean to keep her afloat, the staiths will be inapplicable, or they will be obliged to run out drops into the water; in short, it would be a proceeding which Mr. Brunel never seems to have even contemplated—taking the ground and loading there is what was contemplated—and then the result will follow, which I have already pointed out to the Committee.

"Then with respect to those staiths, there is one very important consideration. Mr. Brunel, in 1836, gave in an estimate for those works; that estimate has not held out in respect of the expense. Mr. Brunel gives his reasons for that. The fact is, that it has been doubled in many items; he himself has doubled it with respect to the staiths, they were originally to cost £8,000; the staiths which were to make this grand and magnificent port, were to cost

£8,000: they are now calculated at £16,000. I gave Mr. Brunel an opportunity of explaining that by inquiring, "How do you account for that?" The answer was, "I shall have more staiths." I do not much care whether Mr. Brunel was in error in 1836, in his estimation as to the port, or in his estimation as to the money; either the one or the other of them answers my purpose, to show it was not taken up with clearness and precision. They had not calculated what work they had to do; or, if they had, it was calculated at an improper cost: Mr. Brunel now doubles the cost, and reckons them at £16,000; and Mr. Stephenson, in the presence of Mr. Brunel, on being asked the question, says, "I cannot believe they are to be made for this, having had the greatest experience on this subject." I believe he said that which might be truly said, that he had the greatest experience probably of anybody in the kingdom. He said, "I am satisfied that these staiths described by Mr. Brunel will cost double the sum he has stated:" which, instead of £16,000, would make £32,000, no small increase; and I think, supposing it came to a measuring cast, Mr. Stephenson's experience on that subject is very great, and Mr. Brunel in his other estimates has failed in establishing them, as they have none of them turned out to be accurate; and there is no reason, that I am aware of, for supposing Mr. Stephenson's view of the estimate is not accurate. He afterwards put it at £30,000, saying he would wish to speak under the mark, and he thought it could not possibly be done for less than £30,000.

"Be it remembered still, that those staiths which they are reckoning on making, is that which experience has taught everybody in the North to abstain from. Mr. Stephenson has told you, and I think Mr. Steel has confirmed it, the pains they are taking in the North to avoid staiths, and making docks as a substitute; and there is this striking fact:—the Clarence Railway comes down at present directly to the Tees, and there they can discharge their coal by staiths already prepared for them; but they have carried on, from that point where they would land at Hartlepool, they have carried on a railway six or seven miles further, or whatever the distance is, they have carried it on further on purpose to get at the docks, in preference to staiths. All the other ports, the ports of Seaham, Sunderland, are all adopting docks instead of staiths; and yet the Welsh people are now to be told, that the great modern improvement which is to open up, I think this is the fashionable expression, to open up the great mineral district of Glamorganshire, is to be a new port erected with these staiths, which every body else has rejected; that is the singularity of the proposition.

"Now, then, Sir, as I am rather anxious to get from this part of the case, I will only remind the Committee of the sort of evidence with which we have met their case. We have first called

Captain Smyth. Now I will venture to say, as Mr. Stephenson has most experience on the subject of staitlis, I think I may say with respect to Captain Smyth, that he well deserved the applause given him by one of the most learned establishments of this country; I am speaking of one of our Universities; applause founded on the great skill and experience which he had shown in investigating ports and harbours, in different parts of the world. I may say in that respect, and on that subject, Captain Smyth stands as high as, probably, any witness can, who could be brought before the Committee. I will not deprive my friends of the opportunity of saying, that Captain Smyth has been applied to by Lord Bute, and is much in the confidence of Lord Bute on the subject, and may therefore be supposed to have some bias in that respect; but Captain Smyth had looked at this port before he was so confided in by Lord Bute, and it is only, comparatively speaking, of late years, that he has been so much in the confidence of the Marquis. But that Captain Smyth is well informed on the subject, the cross-examination of Captain Smyth, and the investigation which was gone into before this Committee, has, I am sure, satisfied the Committee in such a manner, that it would be sheer waste of time for me to make one word of observation on that point. I am sure, as far as nautical skill, particularly applied to this very subject, can go, the Committee have had the best information from Captain Smyth.*

"Captain White, who succeeded Captain Smyth, has been much in the same situation; he has been engaged for a great number of years in surveying, not only the different ports in the kingdom, but especially those in the Bristol Channel. Captain White, practically speaking, found the inconvenience of the Ely, he having incautiously and unadvisedly attempted to go into it. He has stated the inconvenience which resulted from it. Captain White, with this local knowledge, comes here, and, as far as it is possible, confirms Captain Smyth in every point he has stated, with respect to the superiority of one of these barbours as compared one with the other.

"We then called Mr. Stephenson, for the purpose of giving his particular view of it; and it is no small recommendation to the testimony of Mr. Stephenson, that he was anxious to confine himself to those points which were more immediately within his knowledge and experience, and not go beyond it, because he declined giving any opinion whatever on the nautical view of the subject; but about which, I dare say, as an experienced engineer, having gone down there, he had his opinion; yet he did not like before this Committee, to give his opinion of the subject; knowing that they had an opportunity of informing

* Had not this passage been purely upon a professional point, I might have had some delicacy in extracting it. But it certainly does not countenance the busy tale-bearer alluded to, on p. 34.

themselves on that point from nautical persons, who were better acquainted with the subject. He therefore declined giving this opinion ; but on other matters I am sure that he spoke with such authority, that I should rather weaken his testimony by dwelling on it, than by leaving it to the consideration of the Committee.

“ As they had called a witness from Cardiff, we thought it was right to bring a pilot from Cardiff also ; and we called Mr. Brewer. The Committee saw the manner in which he gave his evidence, the manner in which he was cross-examined, and the manner in which questions were asked of him by the Committee : and he had it expressly put to him ‘ Do you know Evans ? ’ ‘ Is Evans a pilot ? ’ ‘ Do you say a square-rigged vessel cannot go into the Ely ? ’ ‘ Did you hear Evans say so ? ’ ‘ Yes, I did ; ’ and I believe his expression was—‘ I was ashamed to hear it, and I appeal to every fair naval man at Cardiff, whether that statement is not incorrect.’ That is the testimony the Committee has before them. Mr. Brewer, who is called, is a pilot from Cardiff, and his evidence is opposed to Evans’s. Now I do not want to make any observations with respect to Evans, stronger than the subject would warrant ; but it cannot escape the attention of the Committee, that Evans is a pilot living at Penarth Head ; and vessels when they come there, wanting to run from thence to the mud-banks, or the Glamorganshire Canal, before the Bute Harbour was there, would take in a pilot ; but since the Bute Harbour has been there, and steam-tugs have been resorted to, the pilots are no longer wanted ; and I am sure Evans would have no great admiration for the Bute Harbour, and would be very glad to have a river where a pilot would be wanted, by which he would be brought into more employ. I hope that may not be considered as pressing the observation on Evans’s testimony, further than it deserves. Besides Brewer, we called Captain Mayor, who confirmed his testimony in the main. I have not any reason to imagine that his evidence was in the slightest degree shaken ; and his opinion confirmed Brewer’s.

“ Then we called Mr. Steel, who spoke to some other matters that were connected with the management of the shipping of coal, in which he had great experience ; and some degree also with respect to the management of docks.

“ I cannot conceive myself, a case, where a greater contrast could be established between witnesses on one side and the other, than between the witnesses I have just enumerated, as compared with the witnesses called on the part of the Promoters of the Bill. It seems to me, that if this question did turn on a fair contest of weight of testimony, those witnesses I have alluded to will have more weight than the others. But for the reasons I have urged, I think it does not turn on that point—it turns more on the local position, and facts, about which this Committee cannot doubt, and those facts seem to me to establish—that on the one hand, there is the old frequented harbour sanctioned by experience and actual use ; on

the other side, there is a harbour which is suggested only by speculation, and has in point of fact never been used. On one side, as it appears from the map, the course is straight and direct—particularly straight, for it is an artificial Cut, as straight and direct as possible, avoiding even the difficulties there used to be in going up the sinuous course of the Taff; certainly very unlike the opposite case, which is a winding shifting bottom at the Ely, subject to the freshes coming down, and the tide both up and down, not acting in its actual course, but going from point to point, and across the fair-way as the witnesses again and again spoke to. In the one, the Docks, which are a modern improvement, are to be used; in the other, the staiths which experience has rejected, are what are proposed to be used."

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This was the summing up of the learned Sergeant, on those points of the examination that had a maritime bearing; to which, in strict accuracy, it may be said there was no reply on the opposite side; for their Counsel prudently declined the greater portion of that very argument, which he himself had dragged forward. Yet, in the face of such a mass of evidence—though the Committee would pronounce no opinion upon it, as not a matter under their consideration—have the Managers of the Taff Vale Railway asserted, with a reckless contempt of exactness, in their Ninth Report, that "THE ADVANTAGES OF THE ELY BRANCH WERE AGAIN ATTEMPTED, BUT INEFFECTUALLY, TO BE DISPROVED BEFORE THE COMMITTEE ON THE BILL, AND PARLIAMENT HAS NOW FOR THE THIRD TIME RECOGNISED THE EXPEDIENCY OF THAT BRANCH."

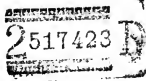
Leaving this temerarious assertion to the reflection of its concoctors, as well as to such as are deluded by it, I shall assume, that those who do not admit such evidence to be conclusive, prove themselves to be incapable of drawing just conclusions from matters of incontrovertible fact: indeed, their case seems so desperate, that it may almost be said of them, in the forcible language of Scripture, "Neither will they be persuaded, though one rose from the dead."

Some of the Directors may be involved in the snare of the Managers, and actually be so blinded by the infatuation, that while they see every mote in the Bute Docks, they are incapable of perceiving the beam at the Cogan Pil. This recalls to mind the story of the

Lamian Witches, of whom the facetious Curé of Meudon tells us, that in foreign places they had the penetration of a lynx, but at home they took out their eyes and hid them in wooden slippers. However, finding all the excuses we can for the Directors, who thus expect to gather grapes from thistles, and extending the utmost charity to the Managers, what can be said of the Subscribers at large? To men who have entrusted their money, even in sums beyond their proper means, to such mismanagement, I can only repeat the good old English proverb—"Those who make themselves Sheep, shall be eaten by the Wolves."



FINIS.



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APPENDIX.

RULES AND REGULATIONS

OF THE

BUTE DOCKS,

AT

CARDIFF.

BUTE DOCKS.

By virtue of the powers contained in the Acts of Parliament—1 William IV, c. 133, and 4 William IV, c. 19, the following Bye-Laws, Rules, Orders, and Regulations, are hereby made and published for the government, regulation, and management of the said Ship-Canal, Dock, or Basin; and all other the Works connected therewith, viz :—

1. That all vessels coming into the roads shall be moored in such a manner as to give a free berth to other vessels previously moored, and also to leave a clear space opposite to the entrance of the Bute Canal, so that the communication between the warping buoys and the sea gates may not be interrupted; and that any master, or other person, having the charge or command of any vessel impeding or obstructing the entrance, and who shall not move her on being ordered so to do by the Dock-master, or his assistant, shall forfeit a sum not exceeding £5. and also a further sum of ten shillings for every hour such obstruction shall remain after notice.

2. That the master, mate, pilot, or other person having the charge of a ship or vessel, bound into the Bute Docks, shall immediately after her arrival off the entrance of the Dock, give intimation to the dock-master, or one of his assistants, of the name of the vessel and master, or other person in command, the port or place from which the vessel has arrived, and her draught of water; and due notice must be given by such persons to the Dock-master, or one

of his assistants, of every intention to move the vessel—except lighters or small craft—either in or out of the Bute Docks, in order that the time and manner may be fixed. But the master, or person in charge, shall be responsible for getting properly moored, and liable to all damage or loss that may arise from neglect of so doing, either to the harbour works, or any of the vessels.

3. For entering the float the sails must be properly stowed, the yards topped, and every thing made as snug as circumstances will admit; the spritsail yard to be fore-and-aft, the jib-boom rigged in, martingales and all outriggers unshipped, quarter-boats lowered, and the anchors taken in on deck. And the Dock-master, or any of his assistants, shall give such orders as he may think proper for removing any obstruction, or obviating any danger or mischief which the yards or rigging of any vessel in the docks may appear likely to occasion. And that no loaded gun be permitted to be brought into the said docks in any ship, or vessel, under a penalty to be levied on the master or commander of £5.

4. That the Dock-master may refuse the admission, or exit, of any vessel coming in or going out of the docks, in stormy weather; or whenever he shall deem it unsafe for navigation. Nor is any vessel allowed to be more than one tide in the cut, or fair-way, below the sea gates, without special permission of the dock-master, under a penalty to be levied on the master or person having the command thereof, of £5. for each offence.

5. That no vessel shall make fast to any buoy, dolphin, or mooring-post, belonging to the said docks, without special permission from the Dock-master; save only such as are going in, or have come out of the said docks; and every master or other person having the command of any vessel so made fast, and who shall not remove her within two hours after receiving notice from the Dock-master, or his assistants, shall forfeit a sum not exceeding twenty shillings for every hour such vessel may remain, after such requisition as aforesaid.

6. That any person having the command or charge of any vessel, who shall make fast ropes, chains, or tackles, to any shed, posts, lamp-posts, quay-rings, or fenders, other

than those assigned for the purpose—or shall order its being done—shall pay a penalty of forty shillings; besides repairing any damage which may thereby arise. And if any person shall wilfully cut, break loosen, damage, or destroy, any cable, hawser, rope, chain, or other thing, by which any ship or vessel shall be moored, or fastened, he shall forfeit a penalty of £5. and shall also be liable in all loss, damage, and expence, that may be thereby occasioned.

7. That all steam-vessels, entering or leaving the harbour, must in every case give way to ships or other vessels, that are warping either into or out of the docks: and in every case must avoid getting into contact with the warps, so situated, under a penalty of £5. for each offence; to be levied on the person having the command or charge of any such steam-vessel. No steamer will be allowed to navigate within the inner float, or within the lock or basin, by means of her paddles, without having obtained the Dock-master's permission for so doing, and his directions as to the speed, under a penalty to be levied as last aforesaid, of forty shillings for each offence.

8. That steam-vessels entering the docks, shall be furnished with proper gang boards; and their furnace fires shall be extinguished as soon as they arrive at the pier head; but they shall be permitted to get up their steam two hours before the respective vessels leave the docks: all steam-vessels shall, while their fires are burning, be kept as much separate from the other shipping as possible, under a penalty—in either case—not exceeding £5.

9. That any master or commander of a vessel who shall arrive within the Bute Docks, having goods on board liable to the customs, or excise, and with intent to unload, shall make report of such ship or vessel, and of her cargo, at the Custom House within twenty-four hours of the arrival of such ship, &c. in the said canal, dock, or basin; and shall also, within twenty-four hours, deliver a copy of the manifest of the cargo at the dock office, or shall forfeit in each case a penalty not exceeding £10.

10. That the owner or master of every ship or vessel, shall give a true account in writing to the Dock-master, of what quantity of ballast, goods, or other things, shall be on board; and that the masters of vessels selling or dis-

posing of such ballast, shall for every such quantity so disposed of, be liable to pay the usual rates of tonnage for the same. Every vessel shall discharge her ballast at her own expence, and at such place as shall be appointed by the Dock-master, his agent, or assistant.

11. That tonnage dues, and all charges on vessels, be paid, if practicable, on the day previous to their quitting the docks, and the pass lodged with the Dock-master as soon after as possible. Accounts of all dues, rates, or charges, on ships, &c., must be paid to the collector at the dock office, who will grant a pass, which must be produced at the Dock-master's office, before the ship can quit the dock. The evading or avoiding such payment leaves the person still liable, and also incurs the forfeit of a sum equal thereto.

12. That no vessel shall careen, heave down, grave, or bream, in the docks or basin, or on the mud-lands before them, except upon such terms as shall have been previously agreed upon, between the ship-owner and the Dock-master: and that no caulking nor scraping of ships' decks, sides, or masts, be allowed without express permission, under a penalty of forty shillings.

13. That during the time for docking, a flag will be kept flying at the west pier shewing the depth of water at the sea-gates, viz. blue, when ten feet and under fifteen feet; and white, when fifteen feet and upwards. No vessel to approach the entrance, until such signal shall have been made.

14. That no person shall, without the authority of the Dock-master, or one of his assistants, open, or draw, or shut, or cause to be opened or shut, any paddle, lock, dock-gate, sluice, tunnel, or bridge, of any such dock, &c. under a penalty of £5. And any person who shall wantonly or wilfully cause the water to be flushed or drawn off from the ship canal, dock, or basin, incurs a penalty amounting to £20.

15. The master, owner, or other person, in charge of a vessel, intending to move her into, or out of the said docks, shall provide a sufficient number of men for that purpose, or in default thereof, the Dock-master, or any of his

assistants shall be authorised to employ men for so doing at the ship's expence ; and an order, signed by the Dock-master, shall be sufficient evidence against the master or owners, of the employment of such men. All craft of light burthen, shall lie bye, or shift, on the Dock-master's order, when ships of large draught are actually moving, under a forfeiture of forty shillings.

16. That the Dock-master shall direct the herthing and dismantling of vessels in the docks ; any persons refusing to obey such directions,—or if any vessel be left with no one on board, the commander or owner of such vessel—shall forfeit a sum not exceeding £5. and the owner of such vessel, will be answerable for any injury sustained by any other vessel through the neglect thereof, as well as to every other expence attending the pumping, or care of such ship, or hoat, in the absence of such attendance.

17. That the tonnage, or admeasurement of all ships and vessels required to be registered by any act, or acts of Parliament, and liable to the rates and duties of the Bute Docks, shall be ascertained according to the certified tonnage in the ship's register ; and the master, or person in charge of any ship or vessel, is required to produce such certificate of registry, at the time of payment of such dues and rates to the collector.

18. That in case of any dispute in respect of the tonnage of any ship or vessel, not required to be registered, or of any foreign ship or vessel, then the tonnage of any such ship or vessel shall be ascertained according to the directions of the Act 3 & 4 William IV. c. 55. entitled, "An act for registering British vessels ;" and in case the same shall, upon such measuring or gauging, appear to be of greater tonnage than shall be set forth and contained in the account which shall have been given thereof, then the master, owner, or other person, having given in such account, shall pay all the costs. But if the tonnage prove the same or less than that given in, then such costs are to be paid by the collector. Any person or persons making any obstruction to such measuring, will incur a penalty of a sum not exceeding £5. for each offence.

19. That the owner of every wherry, or other boat, plying in the Bute Docks, shall enter at the Dock-master's

office the name of the master, or principal boatman, with his residence, and the number and burthen of his boat, under a penalty of forty shillings. And every such boat shall have her number, and master's name, cut or painted on a conspicuous part of the boat, and in figures and letters at least two inches long, under a penalty of forty shillings.

20. That any owner, master, or other person, being in charge of any boat, barge, &c., navigating the Bute Docks, or the cuts, shall cause the name of the owner, master, or other person, and the name or number of such boat, or barge, to be painted on a black ground in large white capital letters and figures, four inches high at least, and of a proportionable breadth, on the outside of the stern or quarter of every such boat or barge; to be renewed as often as they become defaced, or obliterated. And in default of this, shall forfeit a penalty not exceeding £5. for every offence.

21. That any boat, barge, or other vessel, obstructing the navigation of the Docks, and upon request from the dock-master to remove, the person in charge of such vessel neglecting immediately to remove the same, shall for every such offence, pay a sum not exceeding £10; and a further penalty of twenty shillings for every hour during which such obstruction may remain.

22. That the master or owner of boats, barges, &c., are answerable for all damages done by their vessels, horses, or servants, unto any bridges, weirs, locks, dams, engines, trenches, piers, quays, sluices, or other works, in, upon, or belonging to the said Bute Docks. Owners may recover from their servants.

23. That if any boat or other vessel shall be sunk in the canal, dock, basin, or cuts, and the owners thereof shall not, without loss of time, weigh, or draw up the same, it shall be lawful for the Dock-master, or his agent, to cause such boat, &c. to be weighed, and keep the same—with her cargo, if laden—until the payment of all expences thereby incurred.

24. That all vessels laid up or unemployed, shall be taken to such berths as the Dock-master shall think fit;

and any ship, boat, or other vessel, either laid up or unfit for use, or neglected by the owner, may be removed by the dock-master at the expence of the owner.

25. That all vessels taking in, or discharging ballast, stones, bricks, shingle, coals, manure, or rubbish, must either have a tarpaulin, or canvass nailed, or fastened, to the ships side, or use some other safe guard which will be sufficient to secure the said articles, or any part thereof, from falling into the Docks, under a penalty not exceeding £5. over and above the expence of removing the same. And that no such articles be deposited from, or for, any vessel, at a less distance than five feet from the edge of the quay, under a forfeiture of twenty shillings for every offence.

26. That vessels discharging timber, must have a float, or sole of light floating timber on which all oak, elm, or heavy timber liable to sink, shall be placed: and any person floating timber, &c., in the said Docks, contrary to these rules and regulations; or any person throwing in ballast, dust, ashes, shingles, stones, or any rubbish, into any part of the said Canal, Dock, or Basin, shall forfeit and pay for every offence, any sum not exceeding £5.

27. That vessels intended to load or discharge lime, bones, bone-dust, or manure, shall be placed by the Dock-master, or any of his assistants, in that part of the Bute Docks where the nuisance arising from the loading or unloading, may be least felt.

28. That no vessel laden either wholly, or in part with gunpowder, shall have any fire in the cabooses, cabins, or any other part thereof, from the time of her entering the Docks, until the whole of such powder has been duly discharged, in such part of the float as the Dock-master shall direct. No gunpowder or any combustible matter, shall be suffered to remain on the quay or wharf, or upon the deck of any vessel, above twenty four hours after having passed the custom-house; and in case the same cannot be removed before sunset, the owner thereof must, at his or their own expence, have an efficient watch kept over the same, from sunset to sunrise. These directions to be observed under a penalty not exceeding £10.

29. That the master, mate, or other person, having charge of a vessel loading or unloading any cotton, tar, pitch, rosin, hemp, spirituous liquors, turpentine, oil, hay, straw, shavings, faggots, or other combustible goods, who shall permit or suffer any persons employed by them in landing, or loading such goods, to smoke tobacco, or have a fire or light on deck, when the hatches are off,—or have any other thing near to, or amongst such combustible goods, whereby the security of the same might be endangered, shall for each offence forfeit twenty shillings; and any person or persons who shall smoke tobacco near unto combustible goods lying on the quays, shall for each offence forfeit the like penalty of twenty shillings.

30. That the master, mate, or other persons, having charge of any vessel lying within the Docks, or basin, who shall permit, or suffer any pitch, tar, or any other combustible matter to be boiled or heated for the use of any ship, or vessel, either on board of such vessel, or in any place not allowed by the Dock-master, and according to the conditions inserted in the permission, shall forfeit forty shillings for each offence. And no fire shall be allowed on board a vessel near to where carpenters or joiners shall be at work, under a similar penalty.

31. That any master, pilot, or other person, who shall leave an anchor in the entrance to the docks, or within the float, without a buoy, or who shall suffer any such anchor to remain in the said situation for a longer period than one tide, shall for every offence forfeit £5.

32. That the master, mate, or some person appointed by the former, or by the owners, shall remain on board during the whole of the time the vessel is discharging, or loading. And such vessel is to have her sails properly furled, or stowed, during the night, under a penalty of £2.

33. That such persons as have charge of vessels, which require to be smoked for the destruction of vermin, or drying the hold, shall make application to the dock-master, who shall give directions for the vessel being taken to such berth as he may direct for the purpose; and any person not complying with this direction, shall forfeit a penalty of forty shillings for each offence.

34. That no boats are to be repaired, or spars made on the quays, nor are stones to be hewn, or dressed on the quays ; nor are staves, deals, hoops, iron, or any other article to be piled up on the quays ; nor allowed to remain on any part thereof, without written permission from the Dock-master, under a penalty of forty shillings for each offence, to be levied on the person in charge. And should any person who may have landed, or laid any goods upon the public wharfs, quays, or landing places, persist in letting the same, or any part thereof, remain longer than three days, without a due licence, such goods may be removed at the owner's expence, and detained for payment.

35. That no ship's bells shall be allowed to be rung in the Docks, except on board steam-vessels at the time of departure ; and no fire arms, or guns, shall be discharged on board of vessels lying in the Bute Docks, or Basin, under a penalty not exceeding £5. for each offence ; to be levied on the master, or person in charge.

36. That the owner or driver of any cart, carriage, or horses ; or any other person or persons, who shall draw upon, or over any of the dock bridges, quays, or towing paths, any anchors, chains, balks, or other pieces of timber, stones, cables, iron, or other thing whatsoever, in any manner otherwise than and except upon carts, or wheel carriages ; or who shall permit, or suffer any such thing, to trail or drag upon any such bridge, quay, &c., or any part thereof, shall for every offence forfeit the sum of forty shillings.

37. That any officers, constables, or watchmen, and other servants of the Bute Docks, are authorised to have free access on board of vessels or craft in the docks, at all times ; any person obstructing the Dock-master or other officers, or servants of the dock, in the execution of their duty, is liable to a penalty of £5.

38. That no fees, gratuities, or rewards are permitted to be taken by any officer or servant of the dock ; nor are they allowed to receive or partake of any refreshments from or on ship board, on pain of dismissal.

39. Ship owners, masters of vessels, and other persons

frequenting the dock, who feel aggrieved by the orders of any of the assistants; or who consider that a ground of complaint exists, are requested to state the circumstance in the first instance to the Dock-master; or if necessary to the Superintendent of the Harbour Trust, whose decision shall be final.

40. That it shall be lawful for the Dock-master, or other officer appointed, to seize and detain any person, or persons, being unknown to him or them, who shall commit any offence against these Regulations, and to convey him, or her, or them, before any one or more justices of the peace for the town of Cardiff, or county of Glamorgan, without any warrant or other authority, than the aforesaid act for so doing.

By Order of the MARQUESS OF BUTE,

W. H. SMYTH, Captain, R. N.

NOTE.—A copy of these Regulations will be delivered on board of every vessel entering the Docks. Persons offending against them are to forfeit and pay the established Penalty, or make good all damages which the Dock Trust may sustain thereby.

W. BIRD, PRINTER, CARDIFF.

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